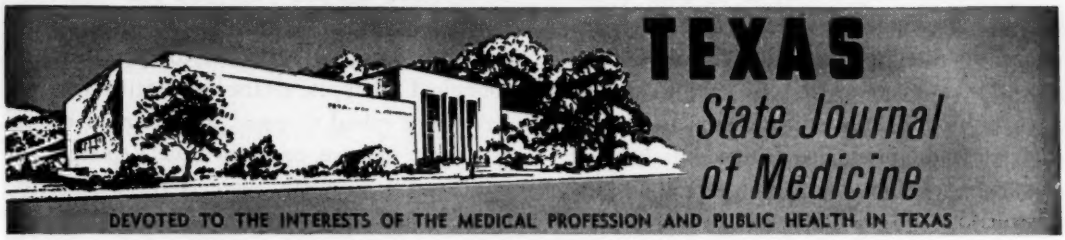

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Modern Psychiatric Revolution

The last decade has witnessed changes in the plight of the mentally ill that would have pleased Philippe Pinel, father of modern psychiatry; Dorthea Dix, the American champion of the mentally ill; and even Sigmund Freud. Every physician and most laymen are well aware that tranquilizers are reducing hospital stays, even obviating them, and aiding in the rehabilitation of what once were regarded as hopeless cases. However, the magic of chemistry is but one part of the drama that makes the present so different from the past that one must conclude a peaceful revolution is in the process in psychiatry.

Commencing with World War II with its many 4-F's because of psychiatric ailments and its many cases of combat fatigue, as well as frank psychosis, the nation's attention was reluctantly focused on the problem. This nation, by and large, has chosen to face the issue squarely and with determination to do something about it. The medical profession has not shirked its role, of necessity a major one, and some of the solutions are just recently becoming evident as trends of the future. World War II forced hundreds of physicians into situations requiring that they cope with the mentally ill. As a result they, like Pinel, became interested, lost their fears and prejudices, and postwar many specialized in psychiatry. The meteoric rise in membership of the American Psychiatric Association, the expansion of psychiatric residency training programs, the broadening and deepening of the curriculum of the medical students, the creation of the National Institute of Mental Health and its pump priming programs, all attest to the response of the medical profession.

With the increase, almost tenfold, in the number of trained psychiatrists, many untouched by the large state hospital tradition, an increasing number elected to go into private practice. As this throng diffused to smaller and smaller communities, the demand for hospital beds increased. The boom in general hospital construction and the diffusion of the psychiatrist to smaller communities coincided, and aided by certain conditions stipulated in the Hill-Burton act, psychiatric beds overnight came into existence where none existed before. In this trend Texas has led the nation, pioneered by such individuals as Titus Harris.

Thus, at the present time, more patients in Texas are being treated each year in nonstate hospital facilities than in the state hospital system, and at no direct expense to the governmental agencies. This serves the multiple role of keeping the patient close to home, helping to remove the stigma of mental illness, and shortening the patient's stay in the hospital and encouraging follow-up care on an out-patient basis locally.

Too, the psychiatrist of today has changed; he is once again part of the medical community and even in some areas takes an active role in the county medical society.

This manner of dealing with the mentally ill has highlighted another facet of the problem, frequently overlooked, that is, the economic side. Today, because of voluntary health insurance pioneered in Texas as Blue Cross-Blue Shield, the base of those treated privately is broadening to include an even greater percentage of the population. Large corporations have faced the problem directly, and more and more are insisting that their group hospitalization insurance programs cover mental illness. At this moment, greater than 50 per cent of the patients at the University of Texas Medical Branch Hospitals are able to be private patients largely as a result of hospitalization insurance.

The state hospital system has not failed to participate in this revolution. Indeed, many institutions are in a true sense becoming hospitals once again, and not—to quote the Texas Research League—"human warehouses." With the state hospitals forced to compete for personnel of all types, salaries and other benefits have been raised to equal the financial return of private practice, or at least the Veterans Administration hospitals, and many competent, trained, and dedicated individuals have answered their call. With trained personnel, training programs have been instituted, intensive treatment centers have been activated, and along with the mass utilization of the available tranquilizers, which have controlled behavior, the whole atmosphere has undergone a complete transformation. With added appropriations, new buildings have replaced those a century old or older that perhaps Dorthea Dix was instrumental in having built in the eighteen hundreds. Thousands of patients have been discharged, and the sum of all the new attitudes and scientific advances has permeated even to the back wards. Hope has been rekindled in the patients as well as the staff. Community attitudes have kept pace, and the patient, by and large, can return to a society that is more accepting than rejecting.

At long last, the duration of hospitalization has commenced a downward trend. Indeed, at the Austin State Hospital, the average stay is now computed in days rather than years, having been reduced from an average of about 10 years in the '40's to 165 days at the present time. This is true even though more and more patients are being treated than ever before, and yet the total population of the state mental hospitals in Texas, as well as the nation, continues to drop. Recent statistics indicate that only 4 years ago there were 560,000 patients in the nation's mental hospitals compared to 543,000 this year. This is a significant figure and denotes a reversal of a trend that has been in effect for the last hundred or more years.

Texas is fortunate in having this modern psychiatric revolution occur at this particular time; if for no other reason, it probably will escape the tremendous capital outlay necessary

to build more and more hospital facilities. Rehabilitation of older buildings and some replacements of course will continue to be necessary.

With the enlightenment of the public and the medical profession, psychiatry once again is an accepted son of medicine and the mental hospital is regaining its just status. With the reversal of the trend of the last 150 years, as yet incomplete, it is not impossible to dream that the complete abolition of the human warehouses is in sight, and the mentally ill will require and ask for no more than equal facilities at home that in most instances already are provided for other illnesses.

—E. IVAN BRUCE, JR., Galveston, Secretary, Texas Neuropsychiatric Association.

Why Participate?

I have been told by members of my county medical society that they did not care one damn about the society, that their sole reason for joining was to get hospital privileges. Some have not been edified by society meetings, some are bored, some are too lazy to make an effort, some dislike those who work in the society, and there are those who no longer feel a need for the society, for their social and economic status is secure.

Yet my medical society and others like it in America are the reason that we have been able to gain economic security and social prestige. These societies have been the reason that we have medical practice acts which protect us from the hordes of quacks who, some 75 years ago, trekked over the nation without responsibility or qualification. These societies are the source of our sanitary laws developed in the past 50 years to protect our food and water. These societies by combined efforts are responsible for the closing of diploma mills and the upbuilding of medical schools so that our diplomas and years of study have validity and significance. The societies in the Texas Medical Association and the American Medical Association have led in the fight against the socialization of medicine. Organized medicine has built up the standards of hospitals and the standards of paramedical groups. The cooperation of medical societies has made possible malpractice insurance, life insurance at reduced rates, sickness and accident insurance, the plans of prepaid medical and hospital care.

But within this organization of medicine we know of problems ahead. We are hearing the complaints that are arising about the way we manage our practices. Prepaid health and hospital insurance totters on the brink because maximums have been the practice in charging. Over 80 private organizations with fund drives seek to harass us. Hospitals tell us where to go—and when—and where to sign our names; they strive to be more attractive than medicine itself. The Veterans Administration thumbs its nose at our efforts, and our Texas Senator supports its plans for expansion as it takes more and more interns and doctors out of private practice. Only recently we have seen organized labor in Texas call for an investigation of exhorbitant medical and hospital fees. In Washington the drug industry is undergoing questions and innuendo. Suits against doctors are rising. The Forand bill is imminent. We are all smeared with the same brush.

In the society of today the individual is as a tumble weed to be tossed in the winds of social change. It is only our collective voices, multiplied by every technique that we can learn or possess, that can rise above the clamor to attract attention.

There are those who would voice opinions of medicine's problems who are unfamiliar with our problems and interests. Unless we can speak intelligently and representatively we can only magnify our weaknesses. We need every doctor in Texas active in his medical society;

Modified from remarks before Travis County Medical Society, Austin, December 15, 1959, and recorded in the Travis County Medical Society Journal 5:17 (Jan.) 1960.

we need his ideas, his thoughts, his judgment, and his influence. We need him in order to protect and to strengthen American medicine.

—J. M. COLEMAN, M.D., Austin.

No Time for Delay

Forand-type legislation, which would provide medical care for the aged under social security, is being considered in Congress now. Such legislation has been opposed repeatedly by the Texas Medical Association in official action of its House of Delegates and most recently by its Executive Board. Physicians need to express this opposition in personal communications to their congressmen without delay if they expect to be heard.

H.R. 4700, introduced in the first session of the present Congress, would amend the social security act to provide hospital, nursing home, and surgical services for persons eligible for old age and survivors' benefits. The government would contract to pay hospitals, nursing homes, and physicians for the services they would provide.

The basis of opposition by the medical profession, as outlined in a recent communication to Texas physicians by Dr. F. W. Yeager, President of the Texas Medical Association, is as follows:

1. Such legislation is unnecessary and would lower the quality of medical care. Great progress is being made through the voluntary approach.

2. The bill proposes the wrong solution to the problem of financing health care of the aged. It is the aged needy and medically indigent who need financial help, and this responsibility belongs primarily to the local community.

3. Passage of the bill would mean a costly, irreversible program. The program would cost approximately two billion dollars the first 2 years.

4. The federal government would be injected into the physician-patient-hospital relationship. Such legislation is a major step toward national compulsory health insurance.

All physicians are urged to make known their views on this measure by writing to their congressmen and the two Texas senators, with copy to Representative Wilbur Mills, chairman of the House Ways and Means Committee, and to the President.

This is no time for procrastination. The letters are needed now.

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President's Page

IT'S TIME TO GET ACTIVE

DR. YEAGER

The year 1960 will be recorded as one of the most vital years in American history. This year will largely determine whether or not our American way of life as we know it will be preserved.

Three factors have been the only things that have prevented the presentation and passage of multiple socialistic bills by Congress. These three factors are (1) a group of sound thinking southern Democrats in the House, (2) a great many staunch Republicans who have abided by their party platform, and (3) the knowledge that our President would veto such bills if passed.

We must become independent thinkers and choose our party and our men each year. The benefits of a two party system in our state must be realized. The Republican Party platform states that this party is definitely opposed to the socialization of medicine.

A goodly number of our southern Democrats have also demonstrated that they stand for our free enterprise system and have fought courageously under extreme pressures for their ideals.

The best example I know of a two party team working together for the good of their nation are Mr. Ikard and Mr. Alger of the House Ways and Means Committee. These are truly great Americans and deserve every support we can give them. We don't want men we can buy, but honest men, capable of independent thought, willing to fight for their ideals of government.

We must attend our precinct and county conventions. We must choose a party and support it with our presence and our money.

This is our land. Let's not surrender it to others by default.

F. W. Yeager, M.D.

ORIGINAL ARTICLES

Treatment of Drug Overdosage

Plan or Panic?

Confusion, overtreatment, and inappropriate treatment occur too frequently in the management of resuscitation after drug overdosage. A patent airway is the most acute requirement in severe drug intoxication. The stomach is emptied by a nasogastric tube. A suitable position, fluid therapy, attention to vital signs, and carefully planned drug therapy also may be important.

Max K. Mendenhall, Major, M.C., U.S.A. and
John A. Jenicek, Lt. Col., M.C., U.S.A.
Fort Sam Houston, Texas

"QUICKLY, get me a syringe of adrenalin!" Too often is this request heard echoing through the emergency room of the hospital when a patient arrives in extremis from hypoxia or cardiovascular collapse. Unfortunately, adrenalin is specific for only a few situations and may be extremely harmful in others. The same may be said for many other drugs.

Panic, confusion, overtreatment, and inappropriate treatment occur too frequently in the management of resuscitation after drug overdosage. Whether the overdose is accidental or is incurred with suicidal intent, the patient's medical problems may be compounded or completely obscured unless therapy is carefully planned. A basic plan can be established for treatment of a wide variety of poisoning problems, and specificity may be added later.

With all due respect to those who are engaged in specialty practice it is our belief that the well qualified general practitioner is best able to manage initial therapy of most cases of drug intoxication. In his absence, a definite chain of responsibility must be established, lest the old adage, "Too many cooks spoil the broth," becomes applicable.

At Brooke Army Hospital the Anesthesiology Service has been designated to treat all patients admitted with the diagnosis of drug intoxication. We would like to present our viewpoints and experiences accrued since May, 1957. The general principles of treatment are discussed in a sequence from the simple to the more complex procedures.

The views and opinions expressed herein do not necessarily represent those of the Surgeon General, Department of the Army, or Department of Defense.

PRINCIPLES OF TREATMENT

At Brooke Army Hospital, virtually all patients with drug poisoning are admitted through the Emergency Room. Rarely, an inpatient may require resuscitation for an inadvertent overdosage of, or hypersensitivity to therapeutic agents. Upon arrival of the patient in the Emergency Room, vital signs

are quickly noted and the immediate needs determined by the physician in attendance. A patent airway is singly the most acute requirement in the severe cases of drug intoxication. This airway is secured by removing secretions, inserting an oropharyngeal or endotracheal airway, or, in many instances, merely by extension of the head together with forward displacement of the mandible. Adequate oxygen exchange is obtained by mechanical means when necessary. Circumstances may require mouth to mouth breathing pending arrival of mechanical respirator equipment. Marked physiological improvement of the patient's condition often follows when adequate oxygen is furnished to the tissues. Anesthesia personnel are "on call" to the Emergency Room to aid with airway management and to insure that respiratory requirements are maintained as near normal as possible.

Once respiratory exchange has been established, the stomach is emptied by use of a large nasogastric tube which is then removed to prevent siphoning of gastric contents into the upper esophagus with resultant damage of tracheobronchial aspiration.[2] (A sample of gastric contents is saved for analysis.) A more complete general evaluation of the patient is made, and all available historical information is obtained. The patient is transferred to the postanesthetic recovery ward for further care to be directed by physicians of the Anesthesia Service. This ward is, in essence, an intensive care unit. Suction equipment, oxygen, and respiratory resuscitation equipment are immediately available within the unit. Other specialty consultations are requested as needed.

Much has been written about bed posture for the patient in coma or shock.[5, 9] We believe that the classical "shock position" in which the foot of the bed is elevated by means of blocks is unphysiological since there is a tendency toward circulatory pooling and stasis in the head and thorax. We have adopted a "contour" position in which both the legs and head are elevated so as to be at the approximate level of the right auricle (fig. 1). This prevents gravity induced venous stasis in an already depressed respiratory center. It also provides for venous drainage of the lower extremities in order that this circulatory volume may serve a useful purpose. Cardiac failure may dictate some alterations in the position. The lower extremities are wrapped in elastic bandages to further prevent venous stasis and thus minimize the danger of pulmonary embolus. Passive leg exercises are given periodically in the severely depressed patient. The patient is turned from side to side at least every 2 hours to minimize atalectasis and to promote pulmonary drainage.

Fluid therapy adequate to maintain homeostasis is not difficult to achieve if treatment is carefully planned before the "fluid and electrolyte problem" arises. An indwelling urethral catheter is placed in the patient's bladder in order that hourly urine output may be determined accurately. Blood electrolyte values are obtained on admission and thereafter only as often as necessary for the adjustment of parenteral fluid and electrolyte administration. Rate of administration of fluids is determined by the rate of urine output. Proper attention to this balance will prevent circulatory overload. We attempt to maintain a minimum urine output of 60 to 100 cc. per hour. Should the intoxicant be one which is partially excreted by the kidneys, the output may be increased. In the presence of oliguria, potassium intake is carefully controlled by frequent determination of the serum potassium level and by the electrocardiogram. Another extremely simple and often overlooked aid in fluid therapy control when the kidney is not dam-

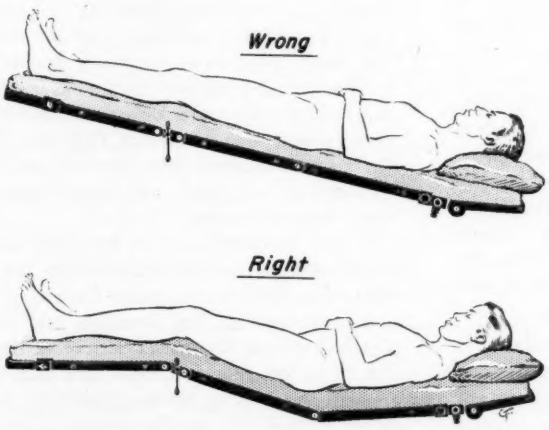

Fig. 1. Classical (wrong) and contour (right) positions to combat shock.

aged is the measurement of urine specific gravity, which can be done on the hourly urine specimens.

Vital signs are recorded exactly as for a patient in the postanesthetic recovery period. The blood pressure, pulse, and respiration are taken and recorded every 15 minutes. If these vital signs are extremely labile or if the patient is receiving vasopressors, they

Major Max K. Mendenhall and his co-author presented this paper from the Anesthesiology Service, Brooke Army Hospital, Brooke Army Medical Center for the Texas Society of Anesthesiologists, April 19, 1959, in San Antonio.

are recorded at 5 or 10 minute intervals as required. Moderate degrees of hypotension as low as 80 mm. of mercury systolic pressure are not treated vigorously with vasopressors unless urinary output is depressed. Tachycardia above 110 pulse beats per minute, prolongation of capillary filling time, pallor, diaphoresis, or other signs of inadequate peripheral circulation are also evaluated as indications for vasopressor therapy.

Management of the airway throughout the period of treatment follows the principles of good anesthesiology practice. If an endotracheal or tracheotomy tube is in place, it is aspirated whenever secretions collect. If tenacious secretions are present, these are aspirated after the tube is irrigated by the anesthesiologist with 5 to 10 cc. of sterile normal saline solution. Tracheal suction without an endotracheal tube in place is relatively easily carried out by passage of the suction catheter via the nasal canal. With one end of the catheter near the operator's ear, it is not difficult to roll the catheter beween the fingers and adjust the position of the patient's head as the catheter is advanced to literally "follow" the airstream into the trachea. After secretions are removed, intermittent positive pressure breathing (IPPB) and intermittent positive negative breathing (IPNB) are valuable to prevent atalectasis and respiratory acidosis. We employ an assister or an IPPB apparatus for this. "Prophylactic antibiotics" are not routinely used when good tracheal toilet can be achieved.

Finally, the topic of drug therapy needs little elaboration. The philosophy we have adopted is one of intensive supportive care with a minimum of pharmacological interference. We are in general opposed to the use of central nervous system stimulants in an attempt to establish or improve respiratory exchange. In our experience, they are of no value and use up much needed time in their administration. Too often the indiscriminate use of "shotgun" remedies leads to a false sense of security. Specific indications for use of a drug whose action is well known to us must be established before administration of that drug is started. It is realized that there are a few instances in which specific drug therapy may rank a close second to airway exchange. A classic example is the use of nitrites in the treatment of cyanide poisoning. It is not the purpose of this paper to elaborate upon specific antidote therapy as this is well documented in any standard textbook of medicine. The need for drugs is minimized if the general measures previously outlined are carried out.

There is little doubt that the use of analeptic agents in the treatment of depressant drug intoxication is widely abused. To date, no satisfactory antagonists for central nervous system depressants other than for the opiates have been found. If this is not fully realized by the therapist, a false sense of security may be imparted through the use of analeptics. Many of the stimulants may be harmful under certain conditions. A good example of the latter is the use of epinephrine in the presence of a hypoxic myocardium. The frequent result is the production of fatal ventricular fibrillation.[6] Picrotoxin, pentylenetretrozol, and comparable drugs may precipitate fatal convulsions but add nothing to the rate of detoxification of the depressant drug. There is some evidence that a "rebound" depression may follow the stimulation of many analeptic drugs. Thus, a vicious cycle of physiological imbalance may be created and enhanced to the detriment of the patient.

Vasopressors may be needed in some instances. The intravenous route is generally the most satisfactory method for administration. Phenylephrine solution 0.001 per cent in 5 per cent dextrose in water by continuous intravenous drip is a valuable drug in our hands. Methoxamine and methamphetamine in carefully controlled doses are often of value. We rarely resort to an extremely potent agent such as levarterenol-bitartrate. Our general impression is that urinary output may be significantly depressed by use of potent vasoconstrictors. Lacking published evidence to the contrary, this form of therapy must be regarded as one which also causes some degree of renal vasoconstriction.[4]

It will be noted that we have not discussed the use of electrical or electronic devices for respiratory simulation prior to this point. Certain of these have been evaluated in the laboratory and clinically by members of the Anesthesia Service in the past. Suffice it to say that far more safe and controllable apparatus such as an ordinary anesthetic gas machine or the IPPB-IPNB machine makes further discussion of the present available electrical devices superfluous.

CASE REPORTS

Over the past 2 years at Brooke Army Hospital, the Anesthesiology Service has managed approximately 13 patients with marked to severe drug intoxication. To date there have been no fatalities. Questionable and mild cases requiring no more than gastric lavage and observation are not included in this series. Six interesting cases are summarized.

CASE 1.—A 22 year old white woman was admitted to the Anesthesia Recovery ward an estimated 13 hours after the ingestion of 4,300 mg. of pentobarbital. She was deeply comatose, areflexic, and slightly cyanotic. Her blood pressure was 90/40 mm. of mercury, the pulse rate was 108, regular and of good quality. Respirations were shallow and primarily diaphragmatic at a rate of 20 to 22 per minute. Her rectal temperature was 99.4 F. There was a generalized skin rash due to insect bites and the patient's scratching (ants were present on the skin in vast numbers).

An oropharyngeal airway was inserted, and the pharynx was cleared of secretions. Oxygen administered by oropharyngeal catheter at a flow rate of 6 liters per minute caused the cyanosis to clear. Gastric lavage yielded 400 cc. of cloudy fluid with a barbiturate concentration of 33.5 mg. per 100 cc. An indwelling catheter was inserted into the bladder and 350 cc. of urine having a barbiturate concentration of 38 mg. per 100 cc. was obtained. The admission blood level of barbiturate was 5.45 mg. per 100 cc.* An intravenous infusion of 5 per cent dextrose in water was started.

The patient's vital signs remained essentially unchanged for the first 3 hours; however, the urine output was approximately 100 cc. per hour during this period. Over the next 11 hours the blood pressure gradually rose and stabilized at 110/60 mm. of mercury. The urine output varied from 200 to 300 cc. per hour. The blood electrolytes were normal on admission and remained within normal range throughout the recovery course. Tracheal suction, positioning, and the other measures described before were carried out.

Nineteen hours after admission voluntary movement returned; 33 hours after admission the patient was responsive and oriented. Recovery thereafter was uneventful. No stimulant drugs were given.

All barbiturate determinations from the Fourth Army Area Toxicology Laboratory, Fort Sam Houston.

CASE 2.—A 37 year old Negro man was admitted to the Emergency Room approximately 1 hour after consuming a fifth of whisky during an 8 minute period on a dare from a friend. It is unknown how much alcohol he had consumed prior to this episode. Upon arrival in the Emergency Room he was deeply cyanotic, and the oropharynx was blocked with secretions. While being admitted to an examination room from the ambulance, he became apneic. A radial pulse was present. Mouth to mouth breathing was applied at first, and then an oral endotracheal tube was inserted and respiratory exchange was maintained by mouth to tube breathing until a mechanical respirator could be attached to the endotracheal tube. When blood pressure readings could be determined, the values remained within acceptable limits. The patient was transferred to the recovery ward. Oxygen was administered into the endotracheal tube by a fine number 8 French catheter at a rate of 2 liters per minute. Tracheal suction as needed, intravenous fluids, changes of position, and other supportive means as already described were used to treat the patient.

CASE 3.—A 66 year old white woman with known hypertension of 210/110 mm. of mercury who had been receiving reserpine 0.25 mg. daily, was admitted to the

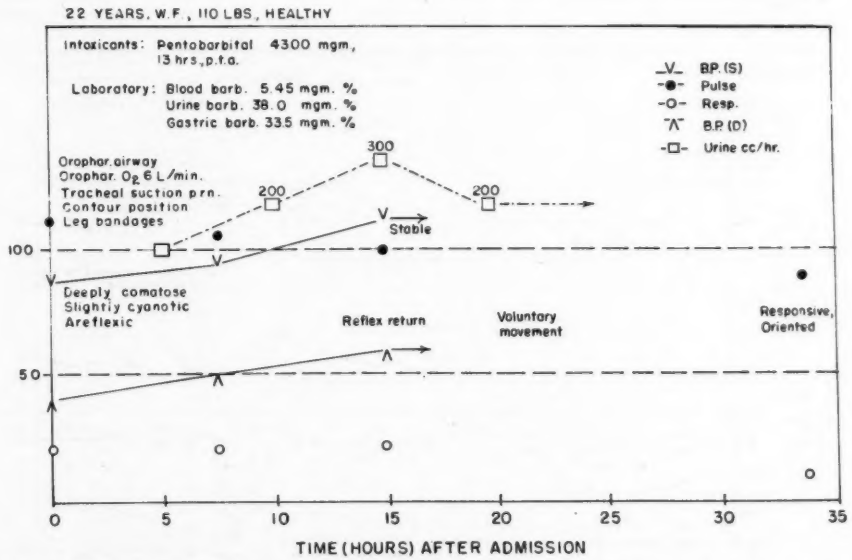

Fig. 2. Case 1. Chart showing response to treatment after ingestion of 4,300 mg. of pentobarbital.

Emergency Room an estimated 8 hours after ingestion of 16 Gm. of meprobamate. She was deeply comatose and areflexic. The blood pressure was 86/60 mm. of mercury, pulse 72, respirations 22 per minute and moderately shallow. Her rectal temperature was 97 F. There was no cyanosis. An oropharyngeal airway was inserted and oxygen was administered by an oropharyngeal catheter at a rate of 6 liters per minute. An indwelling catheter was inserted into the bladder, and 200 cc. of urine with a specific gravity of 1.017 was obtained. An intravenous infusion of 5 per cent dextrose in water was started. The patient was then observed for a period of 1 hour. The vital signs did not change and there was no urine output.

One hour after admission 0.4 mg. of atropine sulfate was given intravenously in divided doses to combat the relative bradycardia which was presumed to be due to

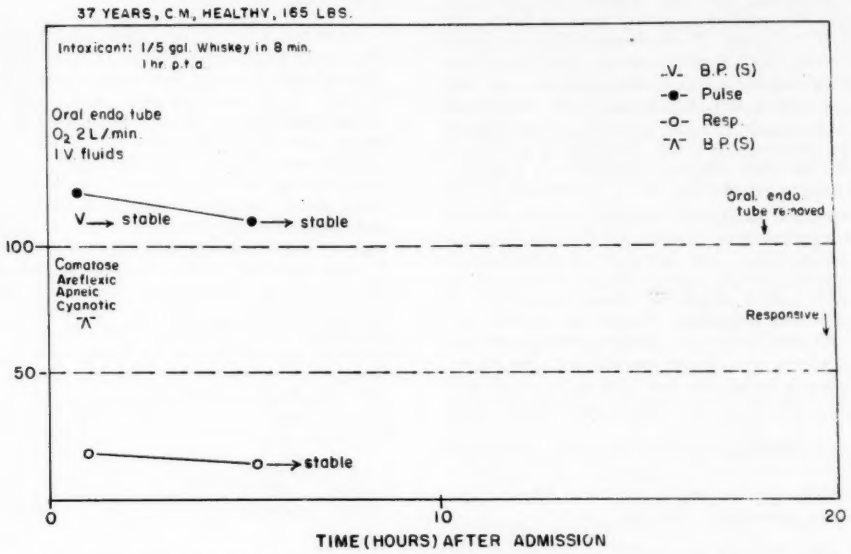

Fig. 3. Case 2. Chart showing response to treatment after consumption of a fifth of whisky during an 8 minute interval.

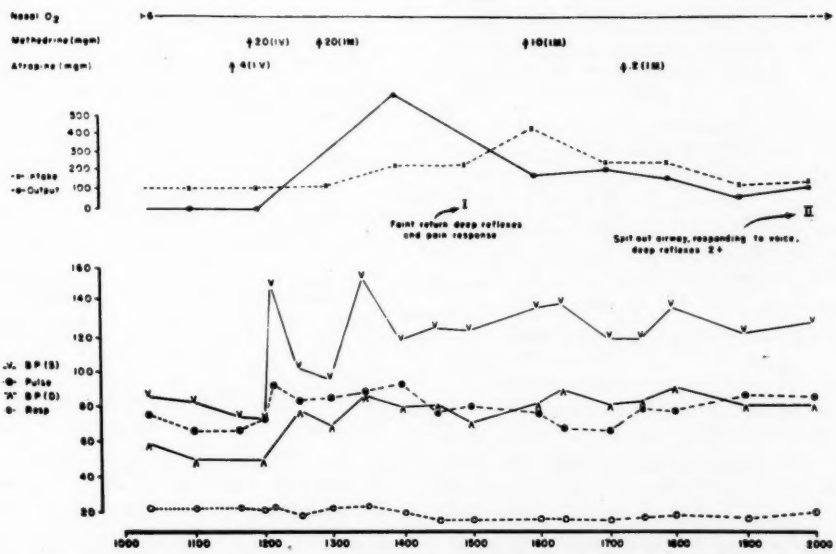

Fig. 4. Case 3. Chart showing response to treatment after ingestion of 16 Gm. of meprobamate in a patient receiving reserpine.

the reserpine therapy the patient had received.[1, 8] The pulse rate increased 4 per minute. Shortly after this, 20 mg. of methamphetamine sulfate was given intravenously in divided doses and the blood pressure rose to 146/90 mm. of mercury. Urinary output began immediately. Intake then was adjusted to maintain an output of 90 to 200 cc. per hour. Methamphetamine and atropine were repeated at intervals over the next 8 hours after which time the blood pressure stabilized at 150/80 mm. of mercury without support. No perceptible change in respiratory pattern was noted after administration of the methamphetamine.

Twenty-two hours after admission the patient reacted to simple commands, and 28 hours after admission she requested food. The remainder of the recovery course was benign.

CASE 4.—A 21 year old white man was admitted to the Emergency Room an estimated 5 to 7 hours after the ingestion of a combination of drugs consisting of acetylsalicylic acid 19.6 Gm., acetophenetidin 18.3 Gm., caffeine 1.6 Gm., chlorcyclizine hydrochloride 1.0 Gm., phenobarbital 0.9 Gm., amobarbital 0.59 Gm., dextroamphetamine sulfate 0.9 Gm., and hyoscyamine 0.002 Gm.

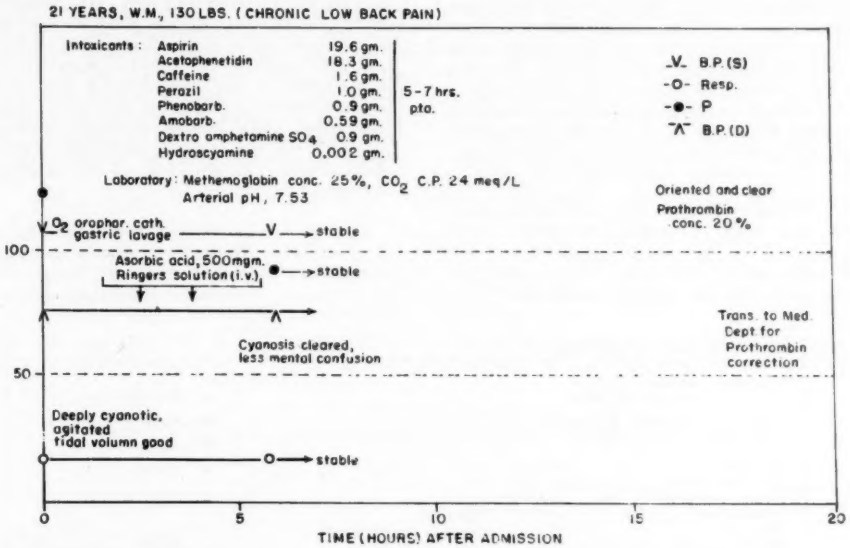

Fig. 5. Case 4. Chart showing response to treatment after ingestion of a combination of drugs including acetylsalicylic acid.

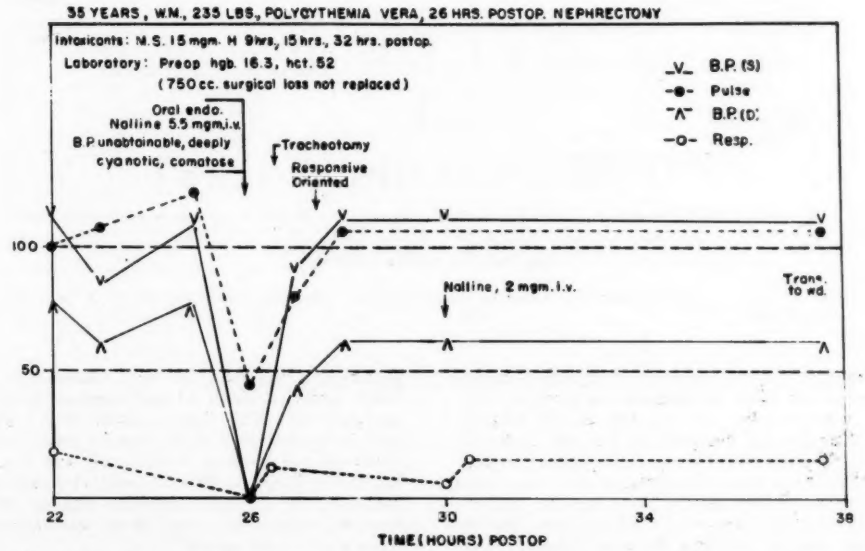

Fig. 6. Case 5. Chart showing response to treatment following postoperative morphine sulfate in a patient with polycythemia vera subjected to nephrectomy.

Emergency Room an estimated 8 hours after ingestion of 16 Gm. of meprobamate. She was deeply comatose and areflexic. The blood pressure was 86/60 mm. of mercury, pulse 72, respirations 22 per minute and moderately shallow. Her rectal temperature was 97 F. There was no cyanosis. An oropharyngeal airway was inserted and oxygen was administered by an oropharyngeal catheter at a rate of 6 liters per minute. An indwelling catheter was inserted into the bladder, and 200 cc. of urine with a specific gravity of 1.017 was obtained. An intravenous infusion of 5 per cent dextrose in water was started. The patient was then observed for a period of 1 hour. The vital signs did not change and there was no urine output.

One hour after admission 0.4 mg. of atropine sulfate was given intravenously in divided doses to combat the relative bradycardia which was presumed to be due to

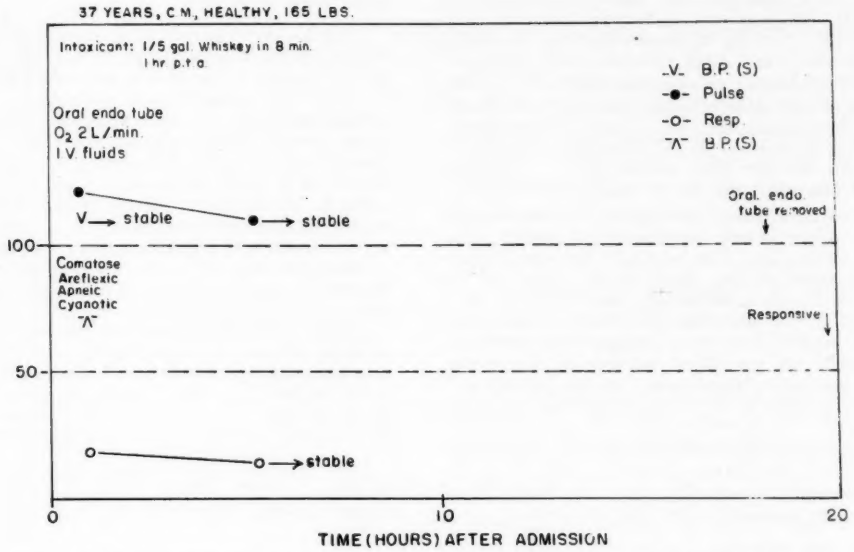

Fig. 3. Case 2. Chart showing response to treatment after consumption of a fifth of whisky during an 8 minute interval.

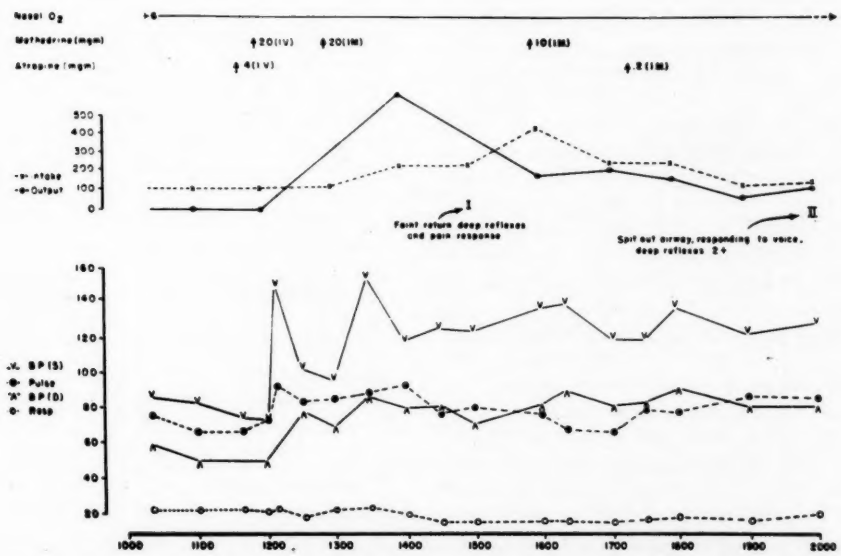

Fig. 4. Case 3. Chart showing response to treatment after ingestion of 16 Gm. of meprobamate in a patient receiving reserpine.

the reserpine therapy the patient had received.[1, 8] The pulse rate increased 4 per minute. Shortly after this, 20 mg. of methamphetamine sulfate was given intravenously in divided doses and the blood pressure rose to 146/90 mm. of mercury. Urinary output began immediately. Intake then was adjusted to maintain an output of 90 to 200 cc. per hour. Methamphetamine and atropine were repeated at intervals over the next 8 hours after which time the blood pressure stabilized at 150/80 mm. of mercury without support. No perceptible change in respiratory pattern was noted after administration of the methamphetamine.

Twenty-two hours after admission the patient reacted to simple commands, and 28 hours after admission she requested food. The remainder of the recovery course was benign.

CASE 4.—A 21 year old white man was admitted to the Emergency Room an estimated 5 to 7 hours after the ingestion of a combination of drugs consisting of acetylsalicylic acid 19.6 Gm., acetophenetidin 18.3 Gm., caffeine 1.6 Gm., chlorcyclizine hydrochloride 1.0 Gm., phenobarbital 0.9 Gm., amobarbital 0.59 Gm., dextroamphetamine sulfate 0.9 Gm., and hyoscyamine 0.002 Gm.

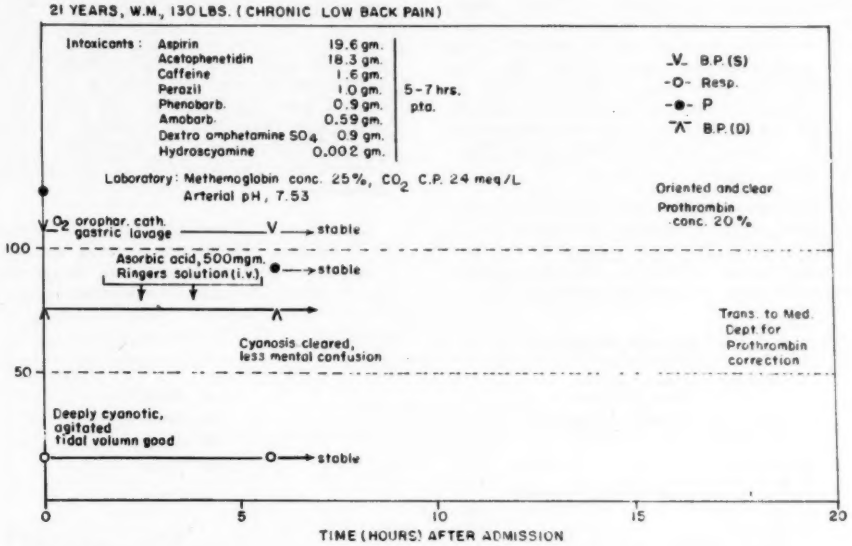

Fig. 5. Case 4. Chart showing response to treatment after ingestion of a combination of drugs including acetylsalicylic acid.

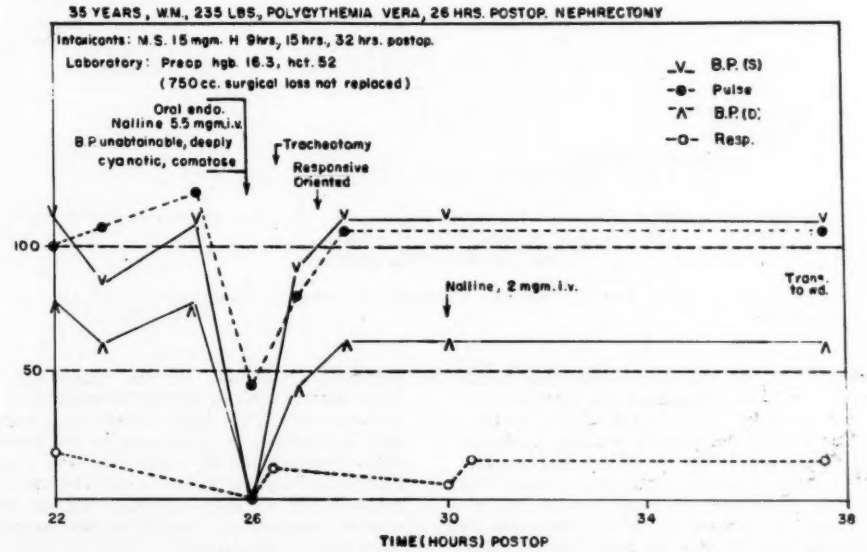

Fig. 6. Case 5. Chart showing response to treatment following postoperative morphine sulfate in a patient with polycythemia vera subjected to nephrectomy.

On admission he was noted to be deeply cyanotic, semistuporous, and agitated. His blood pressure was 110/80 mm. of mercury, pulse 120, respirations 20 per minute with an adequate tidal volume. Oxygen by nasal catheter did not improve his color. A presumptive diagnosis of methemoglobinemia was made, and an intravenous infusion of lactated Ringer's solution containing 500 mg. of ascorbic acid was started. (Admission blood chemistries reported later revealed a methemoglobin concentration of 25 per cent of the total circulating hemoglobin.) The arterial blood pH was 7.53 and the remaining chemistries were within normal limits. The carbon dioxide combining power was 24 milliequivalents per liter, which would indicate that the patient was in a state of respiratory alkalosis. In addition to the usual supportive therapy ascorbic acid was continued in subsequent intravenous fluids, and within 5 hours there was no perceptible cyanosis. The remainder of the recovery course was benign, except for the development of an elevated prothrombin time as a result of the salicylates. This was easily reversed with vitamin K.

CASE 5.—A 35 year old white man with known polycythemia vera was given a general anesthetic for a nephrectomy. It consisted of ether, nitrous oxide, and oxygen with endotracheal intubation. The preoperative hemoglobin was 16.3 Gm. per 100 cc., hematocrit 52 cc. Anesthesia, surgery, and the immediate postoperative course were uneventful. No blood replacement was given to compensate for the estimated 750 cc. loss during surgery. Morphine sulfate 15 mg. was given at 9 hours, 15 hours, and 22 hours postoperatively for pain. The blood pressure, pulse, and respirations remained normal until 1 hour after the last dose of morphine when the blood pressure declined from 110/78 mm. of mercury to 90/64 then rose to 110/74; pulse rate was 120 over the next 2 hours. Nasal oxygen was started on the surgical ward at this time. Other details of vital signs are not exactly known at this time.

Four hours after the last dose of morphine the Anesthesia Service was called in consultation. The patient was comatose, deeply cyanotic, and areflexic and respiratory exchange was nil. At this time the respiratory rate was 2 per minute and the pulse rate approximately 40 per minute. Secretions were quickly cleared from the pharynx, and an oropharyngeal airway was inserted and artificial respiration given with an anesthetic gas machine using oxygen. When the skin color improved, an oral endotracheal tube was inserted for more efficient respiratory exchange. The history was quickly reviewed, and it was presumed that the cause of the respiratory distress was most probably morphine depression since it is frequently noted that polycythemic patients tolerate narcotics poorly.[7] Nalorphine hydrochloride 5.5 mg. in divided doses was given intravenously, and there was prompt return of spontaneous respiration. The patient was then taken to the recovery ward for intensive care. A tracheostomy was performed. A state of consciousness returned gradually during the next hour. Three hours later, respirations again became markedly depressed but were promptly restored with an additional 2 mg. of Nalline intravenously. The remainder of the recovery course was uneventful.

CASE 6.—A 33 year old white man ingested 13.5 Gm. of glutethimide. He became comatose and was hospitalized in a private hospital where gastric lavage was carried out on admission. The time lapse between ingestion and initial treatment is unknown. He was treated with intravenous fluids, methylphenidate 20 mg. intramuscularly every hour and penicillin. While being transferred to a veterans' hospital in another part of the state by ambulance, he developed severe respiratory distress and was brought to the Emergency Room at Brooke Army Hospital upon recommendation of the nurse attending him on the trip. The time of ingestion of glutethimide was approximately 47 hours prior to his arrival.

An oropharyngeal airway was in place. The patient was deeply comatose and moderately cyanotic. Respirations were

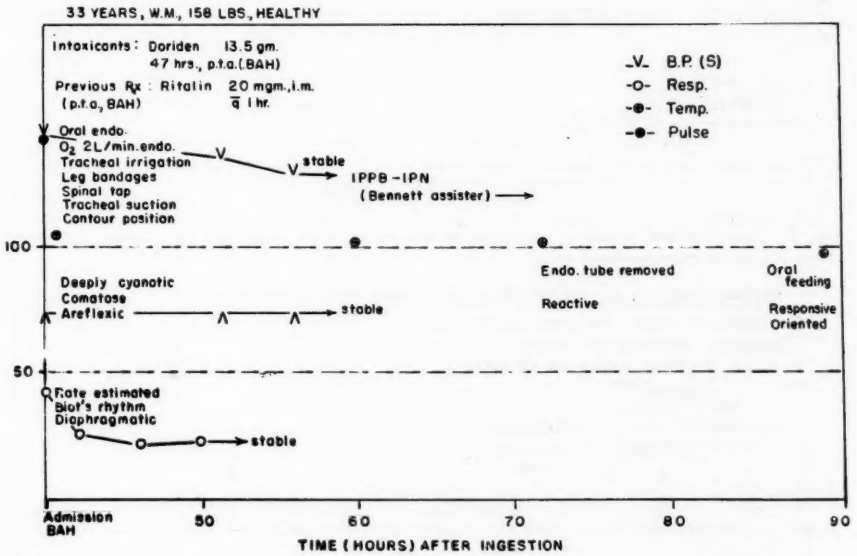

Fig. 7. Case 6. Chart showing response to treatment following ingestion of 13.5 Gm. of glutethimide.

rapid, shallow, and primarily diaphragmatic. Secretions blocked both the upper and lower respiratory tracts. The blood pressure was 140/70, respiratory rate 40 per minute with a Biot's type of rhythm. The rectal temperature was 104.4 F. An oral endotracheal tube was inserted, and considerable mucopurulent secretion was aspirated from the trachea by use of a suction catheter. The lower respiratory tract was cleared of secretions by frequent aspiration and irrigation of the trachea with normal saline solution. Antibiotic coverage was intensified. A spinal tap was done, and the fluid was found to be within normal limits except for a slight elevation in pressure.

Expansion of the lung bases remained poor and IPPB and IPNB breathing was applied to the endotracheal tube. There was rapid improvement in the respiratory pattern. Oxygen, postural changes, intravenous infusion, and other supportive measures previously outlined were included in the over-all care of the patient. Twenty-six hours after admission (74 hours after ingestion) he was reactive and the endotracheal tube was removed. Twelve hours later he was oriented and asking for food. The temperature lysed rapidly, and the remainder of the recovery course was uncomplicated.

SUMMARY

We have presented our viewpoints, as anesthesiologists, on the management of drug intoxication with particular references to the central nervous system depressant drugs. Respiratory management, intensive supportive care, and a minimum of pharmacological interference have produced excellent results at Brooke Army Hospital.

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Air Pollution Control

The Focus Is on People

Certain principles of planning that can be applied when air pollution control is sought are enumerated in the control program used by New York State. Public support is essential to such a program.

HERMAN E. HILLEBOE, M.D.

Albany, New York

TALK ABOUT air pollution reached a national crescendo over the past year or more, and the result has been to create a strong body of public opinion favoring control measures.

This is as it should be, for it is people who must first be made aware of the fact that air pollution menaces both their health and their pocketbooks. It is these same people whose favorable attitudes about air pollution control create the permissive climate in which the lawmaking bodies of states and municipalities can appropriate necessary funds.

Note well that the sequence of events just described began with talk, some printed and some spoken, but communication in any sense. I mention this only to reaffirm what those of us in medicine and public health should be well aware of when we sit down to work out a long range plan for controlling air pollution: The one thing that is vital to the success of any health program is the support and understanding of people.

DANGERS OF AIR POLLUTION

This public support for control measures is increasing as researchers accumulate more evidence on the health hazards and economic losses imposed by polluted air.

The health evidence, while not always definitive, is mounting on both the epidemiologic and laboratory scenes. A comparison of mortality and morbidity rates with various indices of air pollution shows that cities with the heaviest air pollution tend to rank high in death rates for a number of diseases.

There is a warning inference to be drawn from a recent study of those persons taken ill in 1948 when that death dealing smog blanketed Donora, Pa. More than 10 years have passed and that lethal pall is still claiming its human toll. Persons affected on that dreary November 28 have had poorer health in general since that time and more of them have died than neighbors who were not affected by the incident.

Evidence is piling up also that indicates a relationship between atmospheric pollution and cancer. To date, three facts uncovered by research are demanding consideration: (1) cancer producing agents are present in the air we breathe; (2) concentrates of urban smog have produced cancers in animals; (3) the lung cancer rate in our largest cities is twice as high as the rate in nonurban areas.

Laboratory experiments are revealing that specific pollutants present in community air produce adverse effects in animals. Scientists have found that ozone scars the lungs of animals when they breathe it in sublethal doses for several months. Other experi-

ments with ozone show that it may affect the enzyme systems and the respiratory tract.

Aerosols are also under scientific scrutiny. Recent research shows that they intensify the harmful effects of sulfur dioxide. It also has been learned that sulfur oxides in concentrations sometimes present in community air make breathing more difficult for humans.

No one can estimate what the cost of air pollution amounts to in terms of medical care. Some may be tempted to say that economic considerations are extraneous to the health factor. Such persons should be reminded that money saved from curative medical costs can be diverted not only for other pressing

Dr. Herman E. Hilleboe, commissioner of the New York State Department of Health, prepared this paper for the meeting of the Texas Chapter of the American Association of Public Health Physicians, April 19, 1959, in San Antonio.

medical needs, but to open up new vistas of cultural achievement and economic growth.

Nonmedical economic losses from air pollution can only be viewed with staggering dismay. The annual national loss is estimated at $1,500,000,000 or about $10 per person. Some regard this estimate as highly conservative. The figure is arrived at by contrasting before and after costs of damage to vegetation, cleaning expenses for building exteriors and interior furnishings, accelerated corrosion of metals, increased illumination costs, decreased real estate values, laundering and dry cleaning costs, and the expenses associated with blighted areas. These estimates do not, nor can they, portray the aesthetic smirch of an environment befouled with dirt and noxious odors.

A further loss resulting from polluted air—and one which is not accounted for in usual estimates—is the huge volume of valuable materials that drift lazily from industrial smokestacks to be lost forever for human use. According to the United States Bureau of Mines, 700,000 tons of manganese could be recovered each year from processing losses at a savings of $479,000,000. This figure represented about half of our nation's yearly consumption of this critical resource in 1953 and the total will grow as our population total spurts upward and the gears of industry grind faster to supply its needs.

What price shall we settle on to account for the irretrievable loss of this basic mineral ore so vital to worldwide improvement of living standards, a condition upon which lasting peace will depend? How excusable, waste amid want? It is impossible to attach monetary values to these considerations, yet they do count, and significantly, in the total sense of the question.

Failure to redeem the colossal waste of air pollution is becoming one of the best documented examples of penny-wise, pound-foolish practices ever to be recorded in the twentieth century. Effective air pollution abatement can be purchased for a fraction of what it costs to put up with it. The price varies according to the size and intensity of a locality's problem, but even those areas saddled with the most difficult abatement job can achieve effective control at prices that cost their citizens little more than $1 a year in many instances. Some areas are getting the control job done at an annual per citizen cost ranging from a nickel to a quarter—the price of a candy bar or a pack of cigarettes. This, of course, is in addition to industrial costs which are a part of plant operating expenses.

Facts like these need very much to be "talked up" before air pollution control can become a reality in a city or area.

But if talk is vital to getting an air pollution control program off the ground, we should still remember that polluted air cannot be "talked" into a purer state. Someone must sit down and map out an overall plan of action; others must carry out that plan.

PLANNING PRINCIPLES

Unfortunately, a model plan for air pollution control does not exist, and this is so only because air pollution itself is not a planned phenomenon but something of changing intensity and scope which varies with time and place. Then, too, any plan must be tailored for the social values of the people it will benefit, and consideration always must be given to the structure of government, private agencies, and industries participating in the program.

Nonetheless, there are certain principles of planning that can be applied when air pollution control is sought. By applying these principles in New York State, we have been able to launch a program of air pollution control that is moving forward in a planned sequence toward our final goal of optimum prevention and abatement wherever the need exists.

People Come First.—I cannot emphasize too much how important the planning sequence has been to the current success of our program. I mentioned at the outset the need to inform people of the hazards of air pollution. This is the first principle that should be put to work, not the second, nor the third, nor the fourth. Whether it be San Antonio or Syracuse, people must learn that an air pollution problem exists before they will lend their support toward

solving it. And corollary to the public support principle is the need to make the awareness felt with as much local impact as possible. This will mean that the state and local planners should not depend too much upon national periodicals to do all the publicity work in air pollution for them. Citizens will not support air pollution control measures if they feel that Detroit, Pittsburgh, or New York City has a problem, but certainly not Houston, Dallas, or Lubbock.

When favorable public opinion has been secured in adequate degree—and this is something that usually has to be sensed—a plan of action must be ready and waiting, because timing is essential.

Determine the Problem.—But before one can act, it is necessary to know what, more exactly, there is to be acted upon. In military jargon this is known as "the estimate of the situation." Translated into air pollution problems, this means that the nature and extent of polluted air within the state must be estimated by surveys of the situation.

In 1952, 5 years before New York State passed the enabling legislation needed for air pollution control, three separate surveys were conducted by different agencies to determine the extent and seriousness of air pollution throughout the state. Using different methods, the Labor Department, the Health Department, and New York University all arrived at the same conclusion: Community air pollution was widespread in New York State, and not enough attention was being given to its abatement.

Draw Up Adequate Enabling Legislation.—The three surveys provided a great deal of the information needed to draft the Air Pollution Control Act. This act created the Air Pollution Control Board within the Department of Health. The board is comprised of the commissioners of five state departments which have an interest in the problem: the Departments of Agriculture and Markets, Commerce, Conservation, Health, and Labor. The other four members were appointed by the Governor of New York State to represent various interests and provide special competencies. They included the medical and engineering professions, industry, and local government of the state.

Broad powers and duties are given the board to achieve and maintain reasonable air cleanliness in New York State. The objectives are fourfold: (1) promote public health and welfare; (2) assure the development of industry; (3) protect wildlife and vegetation; and (4) safeguard property and other resources.

Devise a Program Plan.—At some early point in the planning process, a long range program needs to be drawn up and specific objectives spelled out. One of the first tasks of our Air Pollution Board was to outline a plan to attain the broad goals set forth by the state's air pollution control law.

The following are the program objectives we determined in New York State: (1) to prevent the occurrence of new air pollution sources and (2) to prevent the progression of existing air pollution sources.

To accomplish these goals, three functions must be planned for and executed:

1. Determine the nature, extent, and location of existing and potential sources of air pollution. This is accomplished by

   a. Reviewing, collating, and interpreting existing data from other private and public sources that are pertinent to the state and its communities.
   b. Conducting field studies and surveys which can indicate how much of what substances are emitted in the air, and when, where, and by whom they are emitted.

2. Apply effective methods of control and prevention within the limits of state and local resources in priority areas and where chances of success are high. This can be done

   a. By assisting communities and industries to plan, execute, and evaluate their control programs.
   b. By extending consulting services, loaning personnel, conducting demonstrations, making grants of equipment and, if available, funds.
   c. By statewide public education through community organizations and mass media in cooperation with voluntary health agencies, industry, and other state departments.
   d. By developing state and local codes, ordinances, and regulations for standards and enforcement.
   e. By developing inspection programs and using community resources to ensure enforcement.
   f. By operating a training program for state and local personnel.

3. Establish and maintain research programs to develop better methods of control and better instruments with which to measure air pollution and gain new knowledge in all phases of air pollution prevention and control.

   a. By departmental research activities.
   b. By contract with other state departments, universities and colleges, industry, and private groups.
   c. By joint research projects with the federal government and other national agencies.
   d. By program evaluation through operational research at regular intervals. From this program plan, the health officer can work out

the managerial and administrative activities and time schedules that will enable him to accomplish his goals.

THREE INITIAL PROJECTS

Three projects were planned originally to determine more exactly the nature and extent of air pollution. The first of these, a review and correlation of past studies, has pinpointed sites where air pollution is most acute and, thus, has enabled us to plan an attack on the problem based on area priorities.

The second project has been the establishment of an air sampling network in 15 major communities in New York State. This operation began on August 1, 1958. Daily samples of air are collected from all stations and sent for analysis to a contract laboratory at Syracuse University. Total particulates, radioactivity, and organic matter are determined from each sample. Sulfates, nitrates, pH, fluorides, and spectrographic determinations for 19 elements are extracted from one of eight samples collected from each station. Organic material from each sampling station is being pooled and fractionated every 60 days.

The third project is to undertake a more comprehensive area-by-area inventory of air pollution based upon the priorities that had been established. The pilot phase of this operation was completed in September, 1958, in the greater Elmira area. This area was selected for two reasons: (1) the board had received a number of complaints and requests for help from local officials there, and (2) greater Elmira was a moderate sized and single air pollution complex that made it ideal for testing inventory methods.

All types of contaminants were considered in the 5 week Elmira study: industrial and commercial establishments, auto exhaust fumes, home heating units, backyard trash burners, and municipal dumps. Only pollen was included among the natural contaminants. This line-up of contaminant sources includes many nonindustrial ones, which in many instances contribute the major part of community air pollution.

As we gain more information on the detection, abatement, and prevention of air pollution, we are passing along the knowledge gained to the people who will actually be doing the detecting, abating, and preventing in local communities, in industries, and among citizens. The tempo of local assistance will increase as our staffs become more fully manned. The rule making and enforcement powers of the board were scheduled to begin July 1, 1959. This 2 year delay in enforcement authorization was designed to provide a necessary time cushion for administrative and technical preparedness.

What I have just outlined in summary would not have been accomplished without the trained people to carry out our program. Nor would our plan have been successful unless it had proceeded in an atmosphere of sympathetic support from the citizens of New York State and particularly their industrial leaders. From the beginning, the entire focus of our program has been on people, because to overlook them would be to invite inevitable failure.

It is necessary to recognize that an air pollution program—like all public health programs—must "crawl" before it "walks"; must "walk" before it "runs." Cognizant of this from the outset, we have outlined a long range program of air pollution control which predicates itself on the absolute necessity of planning in sequence a control program geared for the immediate present, the next few years, and the ultimate future.

The philosophy of sequential planning relates back to our first planning principle about considering people first. Trained personnel do not come in ready-to-use packages of the quantity and quality desired. They must be borrowed from other departments at first, recruited from the outside later, and trained from within continually.

In the same way, the atmosphere of public acceptance and support for a new program such as air pollution control cannot be ordered from a mystic genie who conjures up the permissive climate of public support required. Public support on all levels must be actively sought; diligently pursued; carefully nurtured.

Without this focus on people, a program would be doomed from the start. Recognizing this, our plan in New York State gives due attention to the training of personnel and the fostering of citizen support and understanding.

Air pollution orientation courses have been given to prospective technicians in air pollution control. Classes aim at imparting a basic understanding of problems and possible control methods. Technical courses provide additional training for staffs in local communities, technical staffs of state agencies, full time health agencies, and air pollution control departments. Smoke observer courses provide levels of competence that validate the court testimony of inspectors in local agencies.

The training of engineers, physicians, and research workers in air pollution competencies is a more difficult matter. While on-the-job training and experience is both desirable and necessary, the process is naturally a slower one for these higher skills. To ask local communities—even large cities—to train their own professionals is patently unrealistic. Public health officers in states and communities can help to speed the day of more trained professionals by making known the exact nature of their personnel needs to government officials at every legitimate opportunity. Recruitment and training of professional personnel is a problem in which state air pollution agencies

could well use some outside help from the Public Health Service to get programs started.

To gain citizen support for air pollution control measures, we have launched multiphased activities in public information. For some time, the board has sent news releases to the press, radio, and television on the topical aspects of air pollution control. In addition, the board will issue leaflets, brochures, pamphlets, films, slides, displays, and every other means of mass education.

It is interesting to note how closely the training of personnel and the informing of the public intertwine in the support of each other. The process is somewhat kindred to a chicken-and-the-egg relationship: The more we gain public support, the better we improve our chances of getting the funds appropriated for the hiring and training of personnel to extend our air pollution control activities. Conversely, the more we extend our control activities—and, thus, demonstrate the good sense of air pollution abatement—the better we are able to show tangible benefits that create public support.

It is not at all strange that the more people's living conditions are improved, the more demand there is for further improvements. It will always be so in an active, restless society. Indeed, this striving for betterment is one of the more reliable indices of dynamism in our society. An air pollution control plan harnessed to the powerful forces generated by this dynamism will succeed. Each day we are proving this point more decisively in New York State. I am confident that the experience of Texas will prove to be the same.

◗ Dr. Hilleboe, Commissioner, New York State Department of Health, Albany, N. Y.

A Clinician's View of Medical Education

ALBERT W. HARTMAN, M.D.

San Antonio, Texas

"There is but one period in the making of a doctor that weaknesses in our profession can be prevented, and that is in the medical schools." The practicing physician must support medical education in his relations with teachers and in developing adequate financing, as well as in encouraging applicants of quality and perhaps in devoting some time to teaching.

THE PURPOSE of medical education is to produce a sufficient quantity and a high quality of physicians to supply adequately the needs of the people of our country. As the medical care of our people is a firmly established responsibility of the medical profession, the practicing physician must support medical education in order that its function may be carried out.

The future of the private practice of medicine and the teaching of medicine is dependent upon the establishment and maintenance of a satisfactory relationship between the teacher and the practitioner. Our future is also dependent upon securing adequate financial support for medical education.

No matter how fine the school, how well supported, how wonderful the teacher, or how important the research, unless the supply of students is adequate and of the highest quality, our profession will suffer.

Decline in Applicants

In the recent past, there has been a decline both in the quality and size of the pool of applicants for medical schools.

As to the quality, Cooper[4] has reported that as recently as 1950, 40 per cent of the enrolled medical

students had premedical grade point averages of A, 40 per cent of B, and 20 per cent of C. For 1955 and 1956, only 16 per cent had an A average, 70 per cent B, and the remainder C. In addition to the drop in quality of the applicant, there has been a drop in the number. In the years 1948 and 1949,[10] there were 24,242 individual applicants for 6,688 places in freshman classes, or a ratio of 3.6 applicants to 1 place. In 1957 and 1958, there were 15,791 applicants for 8,030 places in freshman classes, or a ratio of 1.9 applicants to 1 place. These 15,791 individual applicants filed 60,946 applications.

Tuition alone cannot be blamed for this drop in applicants. According to the *J.A.M.A.* of November 15, 1958,[10] Louisiana State had the lowest tuition, $120 for residents and $520 for nonresidents; Johns Hopkins, the highest, was $1,280. Yet Louisiana State had 2.7 while Johns Hopkins had 8.9 applications for each place. In our own schools in Texas, the Medical Branch in Galveston and Southwestern in Dallas each had 2.9 and Baylor had 7.2 applications for each place.

Medicine no longer occupies the unique position in the minds of the student as the leading profession along with law and the ministry. Our profession is in competition with professions that offer equal or greater prestige, financial rewards, and intellectual stimulation.

In estimating the total cost of a medical education, including training for a specialty, the years lost to income production are bound to influence a good student in his choice of profession. I am also afraid that our profession is not getting the support of too many of our college professors who have great influence over their better students.

Besides these factors, we cannot ignore the influence upon a potential student of the frequent public announcements unfavorable to our profession. The public relations of our profession leave much to be desired, and our press has been anything but favorable. We are responsible for much of this unfavorable press which affects many in their choice of our profession.

Teacher Shortage

Shaping the student's professional future, as every teacher of medicine does, is a challenge, a great responsibility, and should be a great pleasure. In spite of the importance of being a teacher of medicine and the gratifications he must realize, there is an increasing shortage of teachers. The annual report on medical education in the United States[6] concerning the budgeted, unfilled full-time faculty positions in medical schools in the United States shows 251 such unfilled places in 1955 and 1956, 331 in 1956 and 1957, and 619 in 1957 and 1958, an increase of approximately 90 per cent of such vacancies in a single year. In the clinical departments, there were 255 such unfilled places in 1957 and 1958 as compared to 94 in 1956 and 1957. Thus, we are faced with the difficult problem of a demand for producing more doctors and advocating the development of new schools for that purpose while we find a decrease in the quality and quantity of students and an increase in vacancies in our full-time faculty positions.

The most obvious cause of this teacher shortage is the great differential that exists in many cases between the incomes of the teacher and the practitioner. There are outstanding exceptions to this situation among teachers that overshadow and obscure from view those with inadequate income. The income of the full-time man whose field of endeavor does not present the opportunity for supplementation by practice, but whose teaching is of such utmost importance, simply has to be increased.

Too often the effectiveness of a school or a department within a school is judged by the personal fame of its head or by the extensiveness and importance of the research program. Yet, in the overcrowded curriculum of our schools, how much time can that too-busy man spend with each individual student? The true effectiveness of the teaching in a school or a department should be judged only by the effectiveness of the instructors, and junior faculty members on the quality of the students turned out.

The amount of knowledge in the vast field of medicine cannot be covered in 4 years. Even in 1912 Henry S. Pritchett[5] wrote, "The medical curriculum has reached the limits of its capacity: it can contain no more. It is clear that educationally we have come almost to an impasse, that the load not only cannot be increased, but that for the sake of good teaching it must be lightened and simplified. The medical student must have a timely opportunity to ground himself in fundamental studies and learn how to think, how to observe, how to apply."

This has become more serious and more apparent since 1912, yet frequently we hear interns and residents complain of their lack of adequate basic scientific background. As Osler[7] once said, "The training of the medical school gives a man his direction, points him the way, and furnishes him with a chart, fairly incomplete, for the voyage, but nothing more." In addition to the vast scientific knowledge needed, cultural background is more important in medicine than in any other profession.

Besides increasing their income in order to increase the number of full-time teachers, we must make greater use of potential teachers among practitioners.

The schools that have used a period of preceptorship with general practitioners for teaching have

been highly pleased. Turner,[10] in presenting the report of the study at the University of Wisconsin, stated that the students are enthusiastic over the program and apparently looked forward to it as one of the high points of their medical school career. He also stated that the study could present no evidence that this preceptor program had acted to encourage graduates to enter the field of general practice or to settle in rural areas. On the contrary, Wisconsin graduates enter specialty practice with as great or greater frequency than the alumni of comparable medical schools which have not included

Dr. Albert W. Hartman delivered this paper as his presidential address before the Texas Surgical Society in Houston, October 5, 1959.

preceptorship in their programs. This, to me, indicates that the program has failed in one of its objectives, namely, to increase the interest in general practice and location in rural communities. But still it has succeeded better than hoped as a teaching method.

With such an experience in general practice, why not extend it to include internal medicine, pediatrics, psychiatry, obstetrics, and surgery, and thereby tap a large source of teachers and teaching material now unused?

These potential teachers should have to attend some form of teaching institute where the trained teacher can instruct and guide them toward the best method of teaching.

Likewise, sabbatical leave might wisely be granted to our teachers to allow them the privilege of spending a time in the rough and tumble of private practice without any of the protection of our great teaching institutions. Understanding between groups often is promoted by each experiencing the problems of the other.

As said by Sheehan and Taylor,[8] "The purpose of a medical school can only be achieved by endeavor in the direction of medical education, research and community care, and they must be carried on simultaneously for they are wholly dependent upon each other, not only for inspiration but for their very means of success." And as Snapper[9] reminded us, "Although the progress of medicine will mainly depend on research and experimentation, the fact remains that 75 per cent of the knowledge of the clinicians can only be acquired by humble empirical observations at the bedside under the guidance of experienced clinicians, and that at all times it must be remembered that education can never be better than the teacher."

Research, as important as it is, must remain in the medical schools secondary to teaching. There is as much danger in overemphasis as in underemphasis, or to quote Bean,[1] "Just as teaching should not get disproportionate attention, so Research—with a capital R—must not be the tail that wags the academic dog." "The medical school of the future is seen as a cluster of research institutes to which the hospital-clinic is attached as a necessary but scarcely honored appendage. Or a great hospital is built expressly to study disease, not to heal the sick. Clinical medicine becomes a parasite on basic research."[3]

Funds for research projects, research training, and research facilities are much more available than for teaching. Most come from the federal government.

The medical school with its threefold function, namely, care of the sick, research, and teaching, must be made up of hospitals for patient care, laboratories both for teaching and research, and classroom areas. Osler[7] described what he thought the teaching hospital should be. "The type of school I have always felt that hospital should be: a place of refuge for the sick poor of the city—a place where the best that is known is taught to a group of the best students—a place where new thought is materialized in research —a school where men are encouraged to base the art upon the science of medicine—a fountain to which teachers in every subject would come for inspiration—a place with a hearty welcome to every practitioner who seeks help—a consulting center for the whole country in cases of obscurity."

We constantly are hearing of the shortage of charity cases for teaching purposes, yet every large city has an overloaded, understaffed, inadequately supported city or county hospital with much unused clinical material. The teaching of the fundamentals of medicine must include a large number of these charity cases. It does not seem to me that the task of bringing these city hospitals under the wings of our medical schools is impossible in order that the patients can be used for teaching and as a result receive better care.

Be that as it may, the student must not be separated from the patient and the teacher if he is to learn. So in enlarging our teaching institutions to meet the increasing demand for doctors, we must also increase our patient population that can be used for teaching.

New Schools and Finances

The public interest would not be properly served if the ratio of physicians per 100,000 population falls below 132, which has been relatively constant for the past 30 years. To maintain this ratio we will need to develop 14 to 20 average sized medical schools by 1970 at cost of between 500 million and 1 billion dollars. As there is a lag of about 10 years between planning of a new school and graduating its first class, even if we start now, the ratio will fall between now and 1970.[10]

During the past 15 years, 13 additional 4 year programs have been activated in the United States; eight of these represent entirely new institutions and five are ones that have augmented their program from 2 year schools of basic science to 4 year degree granting schools.[10]

In his report on medical education, Turner[10] made the following statement: "Despite the large amounts of money which have been provided to the medical colleges, it can be stated categorically that their financial support has been inadequate; that the overall quality of medical education has been adversely affected by this inadequacy; that the standards of medical care, as set by the American public, have not been fully met; and that this failure to meet standards will grow gradually worse until more adequate support is provided. While medical education holds the key which can give or deny the best medical care to the American public, less than one per cent of the nation's bill for medical care is being spent for medical education."

In an article on support of education, Bean[3] summarized the dilemma with the following: "Law makers have proper concern about where the money is coming from to support the costly program of medical training and research. It is their responsibility to be guardians of the public moneys, and in this unhappy time of rising costs and diminishing work week, the clamor for support for many just functions of the state grows steadily. But the same legislator who may skimp in supplying a budget for training physicians is not happy if second-rate support leads to a decline in quality of practicing physicians."

Where are we to get this money for expansion and maintenance? To quote again from Turner's report:[10] "Unless there is a marked change in social philosophy leading to private gifts or state appropriations on an unprecedented scale, large federal appropriations will be required."

The cost of operating the median 4 year school in full operation for 1956-1957 was approximately $2,400,000 and for 1957 and 1958 it was approximately $2,900,000.[10] This is for school operation exclusive of hospital operation and patient care. Care of charity patients and hospital maintenance must be paid for, whether by state funds, city-county funds, federal funds, or private gifts—still from the ever shrinking pool of public funds.

I, and I believe most readers, prefer that this entire cost be borne by local, state, and private means and that federal funds not be used if possible. However, it should be apparent that unless these local funds are forthcoming the federal government will move in.

In addition, we are deluding ourselves even now—as shown by a report of the National Institutes of Health: In 1945, just 14 years ago, they expended for research fellowships $28,000, for training awards $29,000, and for research grants $85,030, and then in 1958, $1,812,000 for research fellowships, $32,560,000 for training awards, and $99,345,000 for research grants, or a total for research fellowships, training, and grants of $142,000 in 1945 and $134,000,000 in 1958.[10] I am a little hard put to find consistency in approving that increase in research federal funds and objecting to federal moneys for teaching purposes.

Training of Surgeon

Since I am a surgeon, it would be remiss for me not to extend the discussion of medical education to include the making of a surgeon.

The surgeon needs complex and intense training. He must have innate integrity and must be his own most severe critic. He must be a psychiatrist to understand patient behavior; he must be a diagnostician, an anatomist, a physiologist, a pathologist, a bacteriologist, a chemist, and in addition he must be skilled in the use of his hands. His training must of necessity be long. He needs close contact with teachers in many branches of medicine. He needs to be inspired by working with some master surgeons who will show him how best to practice his art. There are no insignificant roles in surgery. Something can be learned by participating in the care of every case. Surgery means study and observation to make a diagnosis, preparation for surgery, operation and postoperative care, and rehabilitation. Much of this training can be gotten by assisting at operation and care of the patient and observing the results obtained.

Then he must spend some time being assisted in his care of patients, both the preoperative, operative, and postoperative care, by a finished surgeon who is kind and interested and patient enough truly to help. Then lastly, he must have the total responsibility of the care of his patients.

The time is past when a surgeon has the privilege of learning by his mistakes. The care of the ward patient must be equal to the care of the private patient. Of course, he must learn by his mistakes, but

these mistakes must not be due to his attempting that for which he has had no training, has not assisted someone else do, or is not being assisted by someone who knows what to do.

The many characteristics a surgeon needs, of which humility is perhaps the greatest, can only be imbued by association with those so endowed.

There has been much study and thought given to the problem of the loss of charity cases for the resident to operate upon because of the wide distribution of prepaid insurance. There have been many plans proposed whereby these insurance cases may be cared for by the resident. This situation needs careful study. First of all, I believe, that if there is more full use of the true charity cases seen in our many city-county hospitals, the residents all over the country can find adequate opportunity for operative experience.

Although many university residencies offer the best possible training, some lack the volume of house cases to give the resident his needed bath of fire. Also, many are so specialized according to the interest and fame of their chief that the vast amount of ordinary surgery seen in private practice is neglected. It would seem logical to coordinate the charity hospitals not associated with medical schools with the medical schools in planned training so as to benefit both the resident and the charity patient. This coordination could include the private hospitals where good surgery is being done.

Another point that must be considered is that after training a surgeon he must have the opportunity to practice his art and receive adequate compensation.

Take away the means of support from the young trained and by then impoverished surgeon and you will soon break down the ethical practices so painfully built up the last few years.

Private Practice and Schools

The ultimate aim of all medical education and research and the responsibility of the medical profession is the care of the people who are ill. I believe that, in spite of all of the mistakes and inequities that exist, private practice is the best method our profession has to discharge this responsibility. Private practice in all its branches is an honorable estate. No matter how large our teaching institutions are, how excellent their treatment, how advanced they are scientifically, they account for a small part of the total care of the sick.

That care falls on the shoulders of our great body of practitioners and the facilities they have at their disposal. The excellence of this care is dependent upon the excellence of the teaching they received.

In building our schools of medicine, we must keep in mind our major function, not only realizing the importance and need of research, but also being careful that teaching is not jeopardized by an overemphasis on research. We should be ever conscious of what Churchill has said, "We shape our dwellings and afterwards our dwellings shape us."

The true key to the production of a good doctor is his teacher. Part of the teaching can be done by carefully chosen practicing physicians. There should be a close liaison between the clinician capable of teaching and the parent medical school with full cooperation between them. The clinician should return to the medical school at intervals not simply for additional refresher education in professional fields but also for training in how best to teach.

Such contact might also be a strong aid in breaking down the ridiculous barrier between teacher and clinicians commonly referred to as the difference between "town and gown."

Most of the student's teaching should be done by a professional teacher who participates in enough research to be constantly alert to change and stimulated as only research can stimulate a man, but not enough for the research to become his most important function; who has enough private practice to be kept aware of the vissicitudes of practice and to understand better the thinking and purpose of those in private practice, but not enough private practice for it to detract from his principal duty—to teach. This teacher needs to be excellently motivated so as to love his work and to inspire as well as to impart knowledge to his students.

This teacher must be an administrator or else he will soon find he is controlled by those to whom he has delegated the responsibility of administrating his department. For this, he must be adequately compensated. This compensation should be comparable to those successfully practicing in the branch of medicine he is teaching. This compensation must not depend on his own private practice else his teaching, research, and motivation might suffer.

It should be quite apparent that the clinician could not be where he is without the great work of the teacher; and it is becoming more apparent that the teaching profession needs the cooperation, friendship, understanding, and support of the clinician.

There is but one period in the making of a doctor that weaknesses in our profession can be prevented, and that is in the medical schools. There the twig is bent, there the die is cast as to the kind of doctor and man the student will become. This is done by example, by understanding, by the imparting of knowledge by all the teachers coming in contact with this student.

The principles of what constitutes the practice of

good medicine should be so deeply implanted that no exposure to inadequacies or bad practices in any further training or the temptations of practice could shake them.

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As emphasis on training of well rounded family doctors has returned to the medical school and as the importance of the patient's affective life and social environment has been recognized anew, psychologists have found a place in medical schools. The original emphasis on clinical service to patients has given way to contributions to education and research in a variety of ways by psychologists.

Contributions of PSYCHOLOGY to Medical Education

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BEGINNING with the witch healers and the medicine men of precivilization and extending through the period of the early Greeks, the Middle Ages, the Renaissance, and the Industrial Revolution, medical education was based principally on the apprenticeship method of teaching. This was the era in medicine when scientific knowledge was scarce and medical practice relied heavily on the reassuring and curative effects of the doctor-patient relationship. The young physician of this period, possibly because he lacked drugs and other medical procedures, became familiar early in his training with the principle that an understanding physician could enhance recovery in many patients.

During the nineteenth century the apprenticeship system of education gave way to the "proprietary" medical school.[1] These schools were operated independently with no connection with universities or hospitals, and their instruction consisted largely of didactic lectures. Such a change in medical education can be closely associated with, if not directly attributable to, the outstanding achievements and developments that occurred in the biological and physiological sciences. Medicine was given a scientific basis with the rigorous work and fundamental discoveries of Virchow, Claude Bernard, Pasteur, Wohler, and others, and new special fields of study such as physiology, bacteriology, chemistry, and pathology visibly emerged.

Shortly after the turn of the twentieth century, the well known Flexner report of 1910 took the "proprietary" medical schools to task on the grounds of their heterogeneity of instruction, lack of adequate faculty, and mercenary orientation and character, and

greatly influenced a fundamental change in American medical education. The 4 year curriculum was developed, and it consisted of emphasis on the biological and physiological sciences during the first 2 years, and clinical medicine with patient contact in the last 2 years. Teaching responsibilities within this curriculum were organized along departmental lines with little or no overlap; this was particularly true of the so-called "basic science" years. This program has persisted and has dominated the pattern of undergraduate medical education even up to the present, and at the same time has influenced medical practice. During the first half of the twentieth century the number of "family doctors," who in earlier years were so important in the health and welfare of American society, gradually decreased. In their place came the specialist in internal medicine, ophthalmology, otolaryngology, obstetrics and gynecology, urology, pediatrics, surgery, hematology, radiology, orthopedics, dermatology, psychiatry, and so forth.

Specialized medicine had many advantages, and its impact on the general health of the human race is immeasurable. It led to an increased knowledge of organs and body systems, a significant reduction in mortality rates, and the discovery of many effective diagnostic and therapeutic agents and techniques probably not otherwise possible. However, specialization by its very nature also led to the decided disadvantage of "losing sight of the patient" to focus intensively on one or another diseased organ or body system. It led to a more impersonal practice of medicine with a significant decrease in attention to the doctor-patient relationship and the time honored medical practice of knowing and understanding the patient, the relationship between his illness and his environment, the influences of various external or internal stresses such as economic, occupational, family, unresolved personal conflicts, ungratified and unexpressed needs, and aspirations.

Recognition of the dangers of overspecialization in medicine and the need to modify medical education have been increasingly apparent since the mid 1930's, although little in implementation has occurred until recently. The *Thirty-fourth Annual Report* of the Commonwealth Fund[2] stated that, "Scientific medicine should be medicine based upon the fullest and most exact knowledge of the patient that is available to the doctor. When the term became popular the knowledge most readily available for the firming up of clinical judgement was drawn from physiology, and so scientific medicine was mostly physiological. It must, however, keep step with all the sciences that help to make the patient comprehensible. In recent years psychology has made long strides, and its contributions to the understanding of psychosomatic phenomena have already become indispensible to medicine. Anthropology and sociology are coming to the point where they also can illuminate the patient's interaction with his environment. Scientific medicine has hitherto been weakest in relation to the patient's affective life and his social environment. The behavioral sciences are already helping the doctor to rely less on intuition and more on systematized knowledge as he approaches these facets of the patient. Not to make use of them so far as they are useable would seem to be unscientific."

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In 1951 the Conference on Psychiatric Education[8] held at Cornell University, Ithaca, N. Y., emphasized the need to incorporate more of the knowledge of psychology into the medical curriculum. Recently a British physiologist, Woodger,[9] wrote a plea for the introduction of psychology in the training of doctors because of "the very considerable part played by mental illness in contemporary life." He suggested that the "lopsidedness of the medical curriculum (in England) might very largely be the result of the enormous success and consequent prestige of the physical sciences, which has led people to identify science with physical sciences and so to neglect other kinds of investigation."[9] At the international level, the Fourth World Health Assembly arrived at a similar position suggesting that the "undergraduate curricula (in medical education) play down physics and chemistry, and play up psychology, anthropology, and sociology."

ENTREE OF PSYCHOLOGISTS

The entree of psychologists in medical schools has been a rather recent but rapid development. Before 1940 only a handful of psychologists were associated with medical schools and few more were on the staff of hospitals or made contributions which were reflected in medical research.[3, 4] It was during and following World War II that clinical psychology began to grow. The three members of the psychiatric team, the psychiatrist, the clinical psychologist, and the social worker, who worked so effectively in the military, joined forces to begin to meet the similarly

complex problems of civilian adjustment. Graduate training programs in clinical psychology as well as other areas of psychology developed and expanded to meet the needs of society. In keeping with this team model, some medical school departments of psychiatry appointed a number of clinical psychologists to their faculties. Thus in the beginning, the psychologists in medical schools made their greatest contributions in the area of clinical services, especially in the establishment of a psychiatric diagnosis.

During the year 1951-1952, one of the American Psychological Association's subcommittees surveyed the status of psychology in medical education.[7] At that time a total of 255 psychologists, all with faculty rank, were reported to be employed in medical schools, and 58 of the 79 medical schools surveyed were noted to have psychologists on their faculty. A follow-up study in 1955, by Matarazzo and Daniel[6] indicated that the number had grown to 346, and 68 medical schools now had psychologists holding faculty rank. A less formal tally was reported in 1958 at the annual American Psychological Association meetings by Cohen of Duke University School of Medicine. Apparently the number of psychologists now on the faculty of medical schools is well over 500 and is continuing to grow. Thus there seems to be considerable evidence to support the contention that medical schools are not only more cognizant of the need to include more psychology in their curricula, but also psychologists in an ever increasing manner have been given a significant role in medical education.

Along with this increased and recent involvement of psychology in medical education, and perhaps because of it, psychologists in medical schools have been meeting informally since 1949 to share experiences and information about their roles and to consider and discuss ways of increasing their effectiveness and contributions to medical education. Interest has been persistently high, and the results of many discussions soon began to crystallize into the need for a more formal conference. At the 1954 and 1955 annual meetings of the American Psychological Association, committees were appointed and a formal proposal was prepared for a conference on psychology in medical education. This conference was held in March, 1956, in New York.

Essentially, the conference was concerned with ascertaining the practices and goals of psychologists in medical schools, determining how these practices and goals were integrated into the total medical scene, and discussing methods for improving these within the discipline, and in relation to other disciplines in the field of medical education. A report of the proceedings of this conference was published in *Neuropsychiatry* in 1957.[5] Much of the conference discussion was based on data made available through the 1955 survey of Matarazzo and Daniel. This survey was an intensive job analysis of psychologists in medical schools and dealt with personal, professional, academic, and scientific characteristics of the respondents.

TEACHING

In the area of teaching, about half of the psychologists on faculties of medical schools are involved in some teaching of undergraduate students; almost 21 per cent report teaching "psychiatric interns"; about 24 per cent teach residents; about 20 per cent teach "medical graduates." At the undergraduate level certain topics seem to be taught in the first and second years, such as personality development, perception, motivation, learning, and principles of measurement, while others such as psychodiagnostic testing, test construction, interviewing, and personality dynamics are taught during the third and fourth years. At present there is wide variation among schools in the degree of development of courses in psychology, and wide variation among schools in the number of hours allotted to psychology for undergraduate teaching.

Psychiatric residents and medical residents comprise the two largest groups of graduates taught by psychologists. Graduate courses tend to emphasize clinical material in the form of an applied course in clinical psychology. Topics include theories of personality, appraisal techniques and problems of assessment, and measurement as it relates to clinical psychiatry. In addition, emphasis is given to basic scientific methodology, research design, and, in some instances, philosophy of science as basic material to stimulate and foster research activities on the part of the graduate trainees.

RESEARCH

In the area of research, approximately 68 per cent of the psychologists on full-time appointments in medical schools spend more than 10 per cent of their time on research, and the average psychologist spends about one-third of his time in research activities which range all the way from basic investigations of brain function, learning, and perception to very specific applied problems of the effects of various treatment regimens, reactions to physical illness, and the impact of community mental health educational programs. The scope of the research projects varies from small short term studies to large scale program research over a period of many years.

Although the psychologist is likely to select research problems for purely idiosyncratic reasons, there seems to be considerable evidence to indicate that he is also likely to become involved in a number of

fairly typical medical problems. These include (a) evaluation of treatment methods, including the effects of various drugs and somatic or other forms of therapy; (b) development and evaluation of techniques for selecting personnel, including medical students, candidates for medical specialty training, nurses, aides, and others; (c) development and evaluation of new teaching methods for various medical and allied groups; (d) investigation of etiological factors in various psychiatric, neurological, and medical disorders; (e) research which is primarily of a basic nature, but which is related, directly or indirectly, to medical problems such as studies of normal personality development, perception, cognition, brain functions, and group dynamics.

Most psychologists at some time are involved in collaborative research activities, with the greatest amount of interdisciplinary collaboration (about 55 per cent) being with psychiatrists. Collaboration with other medical specialists and allied disciplines such as nursing and social work is becoming increasingly apparent. The use of the psychologist as a research consultant not only within the department of psychiatry but also within many departments of the medical school has tended to foster collaborative research. It has contributed to the improvement of some interdepartmental relationships by cross-fertilization of ideas and to interdisciplinary investigations which are more precisely directed toward our ultimate understanding of the human organism.

CLINICAL SERVICE

It seems reasonable to state that the psychologist's roles in the area of clinical services are well known by this group. Consequently, and in the interest of time, little attention will be devoted to his contributions in this area. It is interesting to note, however, that while the psychologist first entered into medical schools primarily because of his clinical skills, he now spends an average of about 22 per cent of his time in service activities. This apparent drift away from service probably reflects the basic emphasis of medical schools as academic institutions on teaching and training. Probably it supports the notion that there is an increasing need and demand for the psychologist's time in other nonpsychiatric areas.

The large number of applicants to medical schools contrasted to the limited number of those to be accepted and the enormous expense of medical education have pressed medical schools into a more serious and painstaking attempt to select their students and then to help them to adjust optimally to the school scene. In their search for techniques of student screening and selection, medical schools have called increasingly upon psychologists for their assistance. About 16 per cent of the full-time psychologists in medical schools are involved currently in this work. Their functions are varied and include planning, coordinating, and administering the selection program; membership on the admissions committee; consulting on screening, interviewing, and the use of psychological techniques; and research on the assessment and selection process.

Another area of contribution already realized at some medical schools was suggested by Carlyle Jacobsen, dean of the New York State Medical School, in 1950, "This is in the field of student evaluation, grading, and curriculum planning. The curriculum of medical schools, and of the premedical phase of medical education, has very largely grown like Topsy. It has increased by the introduction of new course material, new areas of study, or by better implementation of older areas, witness psychiatry and preventive medicine as examples. It is always hard to delete activities already underway. Medical education today embraces much that is good, but it also carries some subject matter that continues by strength of tradition, perhaps, more than pertinence to medicine as practiced today. Currently, the Association of American Medical Colleges, through its joint committee with the American Medical Association, is conducting a study of medical education from which should come suggestions for changes in the curriculum. I believe that in the implementation of the changes, the psychologist who is alert to problems and techniques of pedagogy and who knows medical teaching in his own right, can give significant help to the faculty."[4]

Finally some psychologists on medical school faculties have contributed to student selection by making available useful information on medicine as a professional career to potential medical applicants. In this connection, some have arranged for premedical conferences and have participated in high school career days in an attempt to give the student a better understanding of medical education and the practice of medicine.

RESIDENCY TRAINING

In regard to the specific contributions of clinical psychologists to the graduate residency programs in psychiatry, there is evidence that they are playing an active role in the major training programs in the country. In general, the first year residents are taught the details of theory and administration of certain specific psychological tests, especially the Rorschach test, the thematic apperception test, and the Wechsler intelligence tests for children and adults. These training activities are aimed at giving the resident a background in the theories of testing, an understanding

of the values and limitations of such procedures, and a knowledge of how to select and to refer patients for psychological study. In the second year program, usually some formal lectures and seminars are presented on learning theory and perception studies. In addition, there is an attempt to stress the effect of social phenomena on personality development. Often specific courses in research training are developed with emphasis on statistical methods, design of experiment, and other areas. Usually, the second year program emphasizes the team collaboration work between the psychiatrist and the clinical psychologist as we attempt to define and develop a body of knowledge about the so-called science of human behavior. Typically in the third year, the residents use the findings of the clinical psychologist in the evaluations in the outpatient programs as they attempt to understand the patient's personality structure, potential ability to respond to treatment, and prognosis.

In addition, psychologists are available for special consultation in order to design small research projects for the residents during the latter part of their training experience. This role of psychology is in keeping with the general trend to make the third year of a psychiatric residency more elective so that the resident can focus on his own areas of interest within psychiatry, such as hospital work, outpatient psychotherapy, child psychiatry, somatic therapies, and other areas.

SUMMARY AND CONCLUSIONS

The rather recent development of clinical psychology in medical education has been reviewed. The original emphasis on clinical service to patients has been changed, and the psychologist in the medical school has contributed to education and research in a wide variety of ways. Some attempt has been made to identify the contribution of the clinical psychologist to the education and training of the medical student, the psychiatric resident, and others. In our opinion, the psychologist can contribute a great deal to the psychiatrist's understanding of personality structure, patient motivation for psychological help, and the prediction of the ultimate diagnosis.

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Legible Footprinting of Infants Used as Positive Identification

Legible footprinting of infants at birth is a positive means of identification vital in cases where law enforcement has an interest, according to J. Edgar Hoover in an article in *Hospitals*, Journal of the American Hospital Association.

Mr. Hoover said that such cases involve "kidnaping, abandonment, or unexplained death of a child" as well as "those rare cases when a question is raised by parents as to the identity of a child."

A 1955 abduction of a 3 year old baby boy from a San Francisco hospital was cited. Several days later, a baby answering to the general description of the missing child was found in New Jersey. Through a comparison of footprints, he said, the FBI determined that this was not the same child. A few days later, a baby was found in a church in Stockton, Calif., and was positively identified as the child being sought by comparing his footprints with hospital footprint records.

Footprinting is more practical than fingerprinting in infants, he said, because the area is larger and is also more rigid due to the lesser movement of the joints. "In many cases," he continued, "inexperience, lack of necessary knowledge and careless or hasty methods of taking infant footprints have produced foot impressions showing no ridge detail. Thus, they are useless for identification." He recommended a footprinting course in all nurses' training hospitals.

RHEUMATOID ARTHRITIS

Use of Antimalarial Agents In Treatment

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Three antimalarials—Triquin, chloroquine, and Plaquenil—had a distinct antirheumatic effect (decreasing in that order) in a clinical trial on 37 patients with rheumatoid arthritis. The response to therapy appeared satisfactory to good in 30, and toxicity seemed much less than has been reported elsewhere.

IN AUGUST, 1957, our attention at the University of Texas Medical Branch was attracted to the fact that an occasional report was finding its way into the literature suggesting that certain antimalarial agents, notably chloroquine, were proving successful in the treatment of rheumatoid arthritis. Arrangements were made shortly thereafter with the Winthrop Laboratories to supply us with needed drugs to carry out a clinical investigation of chloroquine, Plaquenil, and, more recently, Triquin. Aralen is the trade name of chloroquine phosphate. Plaquenil is the trade name for hydroxychloroquine sulfate. Triquin is composed of 65 mg. of chloroquine, 50 mg. of Plaquenil, and 25 mg. of Atabrine hydrochloride mixed in a small yellow tablet, approximately the size of an aspirin.

The clinical material from which the following data have been extracted is comprised of a total of 37 patients of whom 24 are white females, 4 are Negro females, 7 are white males, and 2 are Negro males. These patients are, with rare exceptions, drawn from the clinical clientele presenting themselves for diagnosis and treatment to the Arthritis Clinic of the Medical Branch of the University of Texas.

The natural history of rheumatoid arthritis is sufficiently poorly understood at present to constitute a very uncertain base line for comparison. Furthermore, the system of disease classification which the American Rheumatism Association formulated in 1949 is so intricate and so complicated as to render it of limited clinical application. For that reason as well as to attempt to simplify this presentation, we have graded the disease according to mild, moderate, or severe. By this standard a mild case would be characterized by inflammatory changes in the joints only. A moderate case would be one in which some joints might be irreparably damaged but still a large degree of inflammatory change is present. A severe case would be one in which there is extensive permanent joint destruction but pain could be relieved to some degree.

Our results of treatment have been similarly recorded.

It is interesting to speculate relevant to the method by which chloroquine and other antimalarials came to be used in the treatment of rheumatoid arthritis. As early as 1894, quinine was used in the treatment of lupus erythematosus, for reasons which are not particularly clear. In 1951, Page[2] reported in the English literature use of antimalarials in the treatment of lupus erythematosus. He stated that "by accident" he had treated with quinacrine (Atabrine) several patients in whom he noticed a favorable response to treatment. It is well known that a portion of the clinical picture in some patients who are victims of disseminated lupus erythematosus consti-

tutes a rheumatoid arthritis–like syndrome. Admitting that there is considerable controversy in the present feeling about the relative relationship between the rheumatoid arthritis–like picture and the positive L. E. phenomenon, one cannot help but wonder if the association of this sort did not lead initially to the use of chloroquine in the treatment of rheumatoid arthritis.

No definite statement can be made regarding mode of action.

Full clinical details relevant to these 37 patients appear in table 1.

It was recommended by the manufacturers of chloroquine that the patients receive a charging dose consisting of 250 mg. two or three times a day for 2 to 3 days and then be carried on a maintenance program of 250 mg. per day. In our patients we have administered chloroquine 250 mg. three times daily for 3 to 4 days, depending upon the severity of the illness, and thereafter have reduced the dose in most instances to 250 mg. twice a day and have continued the dose indefinitely at 250 mg. twice daily.

The time of onset of detectable results either subjective or objective has been variable. Some patients have reported subjective improvement in 48 hours; most, however, relate noticeable change in 4 to 6 weeks. The longer the patients take the medicine the better the results.

Toxicity

The literature available to us at the time of our initial study suggested that chloroquine was an extremely toxic substance. As a matter of fact, it had been reported by Bagnall[1] in 1957 that 41 per cent

TABLE 1.—*Use of Antimalarial Agents in Treatment of Rheumatoid Arthritis.*

Case No.	Stage of Disease	Onset Rx	Treatment	Race-Sex-Age	Aggl. Test	Complications	Results*
1	Severe	June '58	Triquin	N-M-53	+		
2	Moderate	3/13/58	Aralen	W-F-62			
3	Moderate	7/10/58	Plaquenil	W-F-21	+		
4	Mild	6/1/58	Plaquenil	W-F-31			
5	Moderate	7/31/58	Plaquenil	N-M-60	+		
6	Severe	10/3/57	Aralen	W-M-68	+		Fair
7	Mild	1/20/58	Aralen	W-F-63	+		
8	Moderate	7/31/58	Plaquenil	W-F-68			
9	Moderate	3/6/58	Aralen	W-F-50			
10	Moderate	8/14/58	Aralen	W-F-25	+		
11	Severe	1/9/58	Aralen + Plaquenil	W-F-63	+		
12	Severe	7/28/58	Aralen	W-M-39	+	Hair bleached	
13	Mild	8/15/58	Aralen	W-F-40	+		
14	Severe	8/22/58	Aralen	W-M-67			
15	Severe	8/15/57	Aralen + Plaquenil	W-F-46	+	Hair bleached	
16	Mild	8/15/57 2/13/58	Aralen Plaquenil	W-F-29	+	Hair bleached	
17	Mild	4/17/58	Plaquenil	W-M-59			Fair
18	Severe	1/13/58	Chloroquine	N-F-69			
19	Severe	7/17/58	Aralen	W-F-31	+		
20	Moderate	1/10/58	Plaquenil	W-F-73			
21	Severe	11/14/57	Aralen	N-F-44			
22	Severe	10/3/57	Aralen	N-F-52			
23	Mild	Nov. '57	Aralen	W-M-32		Skin rash	Poor
24	Severe	5/6/58	Triquin	W-F-66			
25	Severe	1/2/58	Aralen	W-F-54			Poor
26	Mild	11/11/57	Aralen	W-F-38		Hair bleached	
27	Severe	Jan. '58	Aralen	N-F-48			
28	Mild	Oct. '57	Aralen	W-F-19	+	Hair bleached	
29	Severe	Jan. '58	Aralen	W-F-62			Poor
30	Mild	Feb. '58	Triquin	W-F-50	+	Transient low white count	
31	Severe	Jan. '58	Aralen	W-F-57	+	Skin rash	Poor
32	Mild	Mar. '58	Aralen	W-F-35			
33	Moderate	Feb. '58	Aralen	W-M-57			
34	Moderate	June '58	Aralen	W-F-53			
35	Mild	July '58	Aralen	W-M-43			
36	Moderate	May '58	Aralen	W-F-28			

*Results satisfactory unless stated.

of all of his male patients and 64 per cent of his female patients receiving as much as 250 mg. daily sustained toxic reactions. Since it was our intention to submit these patients to a vigorous clinical trial, it was decided to administer 500 mg. of the drug per day. Toxic reactions have been reported ranging from gastrointestinal disturbances, such as epigastric burning, to the development of rashes, blanching of the hair, and hematopoietic abnormalities, notably a fall in the total white cell count. Occasional visual disturbances have occurred; acute toxic psychoses have been alleged to occur; and in at least one instance, T-wave changes were observed in the electrocardiogram and were attributed to the effect of chloroquine. It was of particular interest, therefore, to observe only 8 instances of serious toxic reaction in these 37 patients.

Perhaps one-third of all patients who take chloroquine report that during the original 1 to 4 weeks of therapy they may develop a noticeable decrease in appetite, and many of them have complained of a sensation very much akin to dizziness. Apparently this dizziness is a rather nonspecific, subjective complaint, however, because invariably these patients have found great difficulty in clearly describing the type of loss of position sense or loss of balance that occurs. Both of these factors are transient and apparently are unimportant; in the vast majority of instances they disappear completely with continued administration of chloroquine.

The most persistent toxic reaction which we have observed has been a distinct blanching effect on the hair, particularly in persons whose normal hair color is red to auburn brown. This has happened in 6 unequivocal instances, 5 in women, 1 in men. All of these patients first observed a platinum blond change in the hair occurring in the part line and around the back of the neck. One of these patients elected to continue taking chloroquine after it was explained to her that we thought the drug was responsible for the hair change, and she has taken chloroquine for well over a year after the initial development of the hair change. At the present time her hair is almost completely platinum blond. It is interesting to observe, too, that the eyebrows blanch very sharply. One of our patients was admitted to the hospital for a diagnostic curettement during the course of preparations for which the pubic hair was shaved. This woman, who grew hair prolifically on her arms, reported that the hair on her arms ceased to grow and the pubic hair growth was delayed many months. Obviously, we have no proof that this is a chloroquine result. The other patients who underwent this hair change elected to change drugs, most of them switching to Plaquenil, and the color of the hair has slowly returned to normal. Apparently this hair color change in no way damages or destroys the hair follicles; it does not produce a state of baldness; and when the drug is discontinued, it apparently permits the hair color to recover itself fairly adequately, although it may encompass many months in so doing.

Thus far, only 2 of the patients included in this series have developed skin rashes. Both of these patients were originally taking chloroquine. One of them had the drug discontinued with a clearance of the skin lesions. The other, because of the severity of her disease, was transferred to Plaquenil and has developed again a rash identical with the one she previously had and which a dermatology consultant, experienced in the use of antimalarials, thought was due to Plaquenil. If so, this is an exceedingly unusual situation inasmuch as Plaquenil is presumed to be far less toxic than chloroquine.

Dr. C. T. Stone, Jr., assistant professor of medicine and director of the Arthritis Clinic, Department of Internal Medicine, University of Texas Medical Branch, presented this paper for the Texas Rheumatism Association, December 5, 1958, in Galveston.

Therapeutic Result

It will be noted by referring to table 1 that in only 7 of our patients and possibly 2 additional ones was the therapeutic result considered fair or poor. In the remainder of these patients the therapeutic result was either good or at least satisfactory from the standpoint of subjective and objective change.

The treatment response has been both subjective and objective. Subjectively, the patients who have been taking chloroquine report a much higher rate of improvement than they reported at the time they were taking Plaquenil. The two pills are virtually indistinguishable in size, color, and shape, and we therefore have been afforded the opportunity of switching certain of these medicines without the patient knowing it. The opinions of those taking this medicine suggest that of the two, chloroquine is distinctly stronger in its antirheumatic effect. Much more recently, the drug Triquin has been made available to us and has proved to be superior to either chloroquine or Plaquenil alone. There is apparently enough Atabrine in a Triquin tablet to produce a detectable yellowing of the skin. However, this is so slight as to be not noticeable unless one specially looks for it.

As was mentioned earlier, cases fairly frequently arise in which the patient presents himself with a clinical picture that is classic for rheumatoid arthritis, but certain laboratory studies for other conditions, namely, the L. E. test, are positive. It is my own opinion that the rheumatoid arthritis–like syndrome in the presence of a positive L. E. test is a component of disseminated lupus erythematosus rather than a variant of rheumatoid arthritis. It is in these borderline cases that Triquin is truly a superior drug. Therefore, in a patient in whom the diagnosis rests between rheumatoid arthritis and lupus erythematosus, this particular medicine may be used with impunity. We also have found Triquin to be equally useful in the severe instances of rheumatoid arthritis that have responded poorly to chloroquine and/or Plaquenil and, in a couple of instances, find it has produced a much more satisfactory response than the steroids would be expected to produce, even though on a temporary basis.

There are certain distinct advantages that will accrue to the use of chloroquine in the treatment of rheumatoid arthritis, provided that further study establishes the fact that it is truly an effective antirheumatic drug. Gold, in the form of one or the other of its salts, has been known and used for a number of years successfully in this country and still remains a very useful agent in the treatment of rheumatoid arthritis. However, as is well known, the use of gold is fraught with a considerable number of difficulties, such as having the patient available for fairly regular surveys, namely, once a week. The patient has his treatment program increased considerably insofar as the expense factor is concerned because of the necessary laboratory work which gold treatment necessitates, and, of course, the gold is connected with the somewhat undesirable feature of being administered by injection. The use of chloroquine or Plaquenil and/or Triquin circumvents certain of these difficulties because it is in tablet form, which the patient can take in his own home locality in a fairly simply regulated program. Infrequent laboratory studies apparently will suffice to afford both the physician and the patient proper protection, and a higher grade of patient cooperation can be achieved than can be made practical and feasible with an injectable substance.

Apparently chloroquine has no particular drug antagonism with any other of the agents which are commonly used in the treatment of this disease. Salicylates in adequate dose may be concomitantly administered and gold may be concomitantly administered, although under those circumstances one compounds the likelihood of a skin rash. Steroids can be used simultaneously should the occasion arise, and it is obvious that this type of therapy does not in any way interfere with the useful application of physical therapeutic measures.

Summary and Conclusions

Pertinent clinical data concerning 37 patients who have been treated for 6 months or longer with one or more of the antimalarials have been presented.

The response to therapy has appeared to be satisfactory in 30 of these 37 patients. The antimalarial drugs have a distinct and detectable antirheumatic effect in decreasing order of Triquin, chloroquine, and Plaquenil. Our preliminary survey would suggest a much wider use and further study of these agents as antirheumatic drugs. Our experiences with these antimalarial drugs has produced a detectable toxicity in considerably less percentage than other physicians have reported. We believe that no serious toxic reactions have occurred.

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Pharmaceutical Industry Leads in Basic Research

In addition to the development of new medicines, another kind of research equally important to the pharmaceutical industry is basic research, points out the Health News Institute.

Basic research brings in no dollar profits; devises no saleable products; and creates no new production shortcuts. Yet, according to a study conducted by *Science*, American industry in 1953 spent more than $150,000,000 and utilized the talents of almost 6,000 scientists in what the National Science Foundation has defined as "projects which are not identified with specific product or process applications, but rather have the primary objective of adding to the overall scientific knowledge . . ."

To conduct its share of basic research, the pharmaceutical industry employed more than 850 scientists in 1953. These researchers published more than 600 papers on their work . . . approximately 20 per cent of all basic research studies published in that year.

In 1953, basic research cost the pharmaceutical industry more than $16,000,000. This came to more than 10 per cent of all the money spent by private industry in basic research, and from 20 to 25 per cent of the pharmaceutical industry total research budget. In comparison, all American industry during that year spent an average of about 40 per cent of the total research budget on basic research.

Surgical Management Of Frontal Skull Fractures

Ten cases illustrate a method of managing frontal skull fractures which has proved satisfactory in the hands of the author. This involves debridement, removal of fractured frontal sinuses, obliteration of the nasofrontal ducts, evacuation of hematomas, closing of dural defects, and tantalum cranioplasty.

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FRACTURES OF THE frontal bones of the skull present in their management certain problems peculiar to them and ordinarily not found with other skull fractures. Although it is true that most skull fractures are linear, simple, and usually of regular appearance, such is not often the case with those occurring anteriorly. It would seem that the frontal region is especially resistant to injury so that if a force is applied sufficient to produce a fracture, such a fracture oftentimes is compound and depressed, with a tendency toward comminution, irregularity, and a stellate configuration. It is also true that because of the presence of the paranasal sinuses in this area, they usually participate in the fracture to a greater or lesser degree, thus introducing the hazard of direct extension of infection into the cranial cavity; therefore, the percentage of frontal fractures requiring surgical intervention is much higher than those occurring in other areas of the skull.

Cases Selected for Study

In order to illustrate the various problems involved in the management of frontal skull fractures, 10 consecutive cases treated surgically at the Medical Center Hospital in Odessa from 1955 to 1957 will be described with respect to the injury itself, the clinical and radiological findings, and the surgical management and results. Gunshot wounds were deliberately excluded from this series since they present special problems and are not strictly comparable.

Of the 10 patients, 9 were adults and only 1 was female. Six of these patients were injured as the result of industrial accidents, usually a direct blow to the forehead area by swinging or falling objects. In 1 of these, however, the injury occurred as a result of a fall from a height. The other 4 cases all were the result of vehicular accidents, and in these it is not known whether the fracturing blow occurred as the result of striking some object within the car or from being thrown out of the vehicle onto the highway.

In 5 of the 10 cases coma or semicoma supervened immediately following the accident, but in only 1 of these was it prolonged beyond a few days. In the other 5 patients consciousness was lost only momentarily if at all, the post-traumatic period being marked by a more or less alert, oriented, and rational state. Except for these alterations in consciousness, gross neurologic abnormalities such as hemiplegia, cranial nerve palsies, muscular rigidity, and bulbar dysfunction were not seen; and in only 1 instance did convulsions occur. Also, in none of these cases could cerebrospinal fluid rhinorrhea be demonstrated although it is of course likely that it did occur in some if only for a limited period of time.

In many of these patients the diagnosis of fracture depended upon roentgen-ray examination, and this was especially valuable in demonstrating involvement of the paranasal sinuses. However, it was noted that correlation of radiological findings with the actual situation found at surgery was sometimes not very close, so that, as a practical matter, it was difficult to predict from examination of the films just how extensive the surgical intervention would need

to be. In several instances where the radiological findings indicated that a simple limited operation would be sufficient, such was not found to be the case upon exposing the fractured area. On the other hand, in some cases where a radical procedure was contemplated, it was found not to be necessary at the time of surgery. Thus, the radiological examination is of definite, but limited value in these patients as a quantitative index of the degree of injury.

In 8 cases out of the 10 selected for study, the wound was compound. In addition, involvement of the paranasal sinuses was also present in 8 of the 10, but not in the same 8. In each of these latter instances, one or both of the frontal sinuses was involved in the fracture, and in only 2 of these was the posterior plate of the sinus intact; in other words, in 6 cases there was present immediately the hazard of direct extension of infection from the sinuses into the cranial cavity, with of course the possible complications of meningitis and brain abscess. Comminution of the fracture also was present in most cases, and in many of these, several large and small bone fragments were scattered along the fracture bed and its margins. One or more dural lacerations were encountered 6 times.

Surgical Procedure

All 10 patients described in this paper were operated upon, the indications for surgery being any of the following: (1) moderate or severe depression of the fracture, (2) compounding of the fracture, (3) excessive comminution of the fracture, a condition usually accompanying depression, and (4) involvement of the paranasal sinuses in the fracture, more particularly those parts of the sinuses in direct contact with the dura.

Six of these patients were operated upon within 3 days of the injury, and the remaining 4 within 3 weeks. Ordinarily surgery was done as soon as the full extent of the injuries could be ascertained and as soon as the patient's vital signs had stabilized. Sometimes the decision to operate could be made within the first hour or 2, and sometimes 48 or 72 hours were required. In 6 of the cases a coronal ear-to-ear incision was employed so that the entire frontal scalp flap could be reflected downward anteriorly, exposing all of the frontal bone including the supraorbital ridges and the nasion. In the other 4 cases local incisions about the fracture were utilized, incorporating where possible the lacerations incurred at the time of injury. On one of these instrumental manipulation was carried out through the laceration in order to effect reduction of the fracture, which in this instance involved only the anterior plate of the frontal sinus.

Debridement of fragmented bone, shredded and potentially contaminated dura, and devitalized brain was carried out thoroughly in each instance; this is necessary in order to prevent subsequent infection and other complications. In addition complete removal of the fractured frontal sinuses was accomplished at the same time with exenteration of all mucous membrane above the nasofrontal duct. Obliteration of these ducts was then achieved by stuffing remnants of the mucous membrane down into them, and then cauterizing this material from above so as to assure the presence of a sterile barrier in this location, the purpose being to prevent the extension of infection from the nasal cavities upward through the duct. During the operation, extradural and subdural hematomas were sought and, when found, evacuated. In our series of cases, 1 extradural hematoma and no subdural hematomas were found. In addition, dural defects also were carefully looked for and were closed either with pericranial or temporal fascia grafts or with polyethylene film. In 3 cases where frontal sinuses were removed, fragments of medullary bone from the hip were employed to fill the cavities resulting from such removal, especially in those cases where the frontal sinuses were so large that their removal resulted in a hanging down of the frontal poles of the brain. (In 3 comparable instances when this was not done, no untoward symptoms developed, so it is likely that this part of the procedure may be safely abandoned.) Postoperative drainage was not used in any of this series of cases, nor was tracheotomy necessary.

Dr. J. Paul Rader, neurological surgeon, presented this paper for the Section on Eye, Ear, Nose, and Throat at the Texas Medical Association annual session, April 20, 1959, in San Antonio.

Nine of the 10 patients in this group received tantalum cranioplasty, 5 immediately at the time of the primary debridement and 4 at a later date. Of the 5 who underwent immediate tantalum cranioplasty, 4 had compound fractures and theoretically should have had the cranioplasty deferred because of the possibility of bacterial contamination. Of these 4 patients who received delayed cranioplasty, in 1 case the delay was due to our initial conservative attitude; in 2 more because of very extensive contamination with dirt and foreign material; and in the last because of a previous history of chronic

recurrent suppurative frontal sinusitis which was confirmed at the time of the first operation.

Postoperative Complications

There have been no known serious complications to date in any of these patients, the most recent case having been treated 18 months ago. In several of the patients fluid collected postoperatively beneath the scalp flap and about the tantalum plate, but in each instance this absorbed without aspiration. No evidence of postoperative infection has been encountered yet, nor other complications such as severe headache, seizures, or visual disturbances. One patient had intense vertigo for several weeks following delayed cranioplasty, presumably on a toxic or stress basis. Cosmetic results have been uniformly excellent, the tantalum plates ordinarily not being visible or palpable. In addition, so far as we have been able to determine, there has been no permanent change in personality, intellectual capacity, or memory in any of these patients. In 5 of the 10, electroencephalograms made during the week following the injury were abnormal, but subsequently in all 10 cases the tracings were found eventually to have returned to normal.

Discussion

Although certain general principles govern the management of all skull fractures, there are nevertheless special problems encountered with fractures occurring in particular areas of the head. This is notably true of those which are compound, comminuted, and depressed; those which overlie certain vascular channels such as the meningeal vessels and the dural sinuses; those which enter certain specialized areas such as the petrous portion of the temporal bone; and those which occur anteriorly involving the paranasal sinuses. It is with this latter group that we are concerned in this discussion.

Probably there are two main points to be considered with respect to these fractures. The first and most important of these is the potentially infected nature of these injuries. It is an axiom that when the fracture enters one or more of the frontal, sphenoid, or ethmoid sinuses so as to result in a communication of these sinuses with the cranial cavity, subsequent bacterial invasion of this cavity, with meningitis and abscess formation, may be expected. Such contamination may occur immediately or may be delayed for several years. It is true that the widespread use of antibiotics has helped reduce the possibility of such an occurrence, but it certainly cannot be considered that this will guarantee against the possible future appearance of such complications. It therefore becomes mandatory to protect the patient from such an eventuality by the surgical removal of all contaminated tissue including bone. That such a procedure may be more extensive then would be indicated by the patient's clinical condition is of course recognized, but it is the only means by which assurance may be given of future freedom from complications. In addition in many cases it is possible only at the time of surgery to ascertain the extensiveness of the wound, to determine whether or not there has been laceration of the dura with contusion and penetration of the cortex itself, and to visualize and evacuate any intracranial hematomas which may be present. In other words, it is our opinion that thorough debridement undertaken as soon as is feasible is necessary in these cases even though the advisability of such a procedure may be at variance with the radiological and clinical findings.

In most instances in addition to the problem of potential infection, one also must be prepared to deal with the cosmetic defect resulting either from the injury or from the surgery necessary to repair the injury. These defects often can be very severe with resultant extensive deformity of the patient's facial features, profile, and identifying characteristics. It was our feeling at first that when compounding had occurred, it probably would be inadvisable to introduce immediately into the wounded area such a foreign body as a large sheet of tantalum because of the difficulty of being certain that future infection would not occur. In the event of contamination, these plates would have to be removed and reinserted at a much later date. However, the surgeon also is faced with another responsibility, and that is to operate upon a patient as few times as possible.

Because of this it was decided part way through the series to proceed with immediate cranioplasty at the time of the original definitive operation unless there was an absolute contraindication. It is at present our feeling that probably such a contraindication does not exist. Possibly the only factor that would make us hesitate in the future to carry out immediate cranioplasty would be the situation we encountered in one of these patients where there had been an old suppurative sinusitis present over a period of many years. It is conceivable that the insertion of a plate in such a situation would be fraught with additional danger which might not be compensated for by the elimination of a future operation. However, we certainly would not hesitate in any other circumstances, the patient's condition permitting, to continue with immediate tantalum cranioplasty; it being our impression that these patients do better, are spared an additional operation, and actually obtain a more satisfactory cosmetic result. We feel that tantalum is preferable to other materials because it can be fitted exactly to the skull defect without bulge or

hollow. All of our patients have returned to their pretraumatic activities and employment and appear to be doing satisfactorily in every respect. It is possible, of course, that infection may yet occur in one of these cases, but it is our feeling that such a complication has become very unlikely.

Case Reports

CASE 1.—This white male, 28 year old oilfield worker was injured when some bushings fell from the top of a rig, striking him in the left posterior frontal area just about at the hairline. The patient was somewhat stuporous for a day or so, but was unconscious only for a few minutes. A curved laceration was sutured at another hospital following the accident, and the patient was kept there until the fourth day at which time he was transferred to Odessa for surgical treatment.

The laceration already present was employed as part of the incision, and exposure of the skull revealed a large, circular comminuted depressed area approximately the size of a silver dollar. All of the depressed bone was removed, a dural laceration was sutured, and a circular tantalum plate was applied. The patient's recovery was uneventful.

CASE 2.—This 46 year old white male oilfield worker was struck across the head by a steel cable. He was said to have been unconscious for from 3 to 5 minutes and subsequently was completely clear, oriented, and alert. On physical examination the frontal scalp was intact, but there was a large depressed area involving the lower mid forehead region. Roentgenograms revealed comminuted depressed fractures of both frontal sinuses more marked on the left involving the posterior plates of the sinuses and also probably the cribiform plate.

At surgery a coronal incision was employed so that the entire fractured area could be exposed. On removal of the frontal sinuses, which were severely comminuted, 2 dural lacerations were encountered which were sutured. In this case tantalum cranioplasty was deferred, being carried out 5 months later. This patient recovered uneventfully and is again employed as an oilfield worker.

CASE 3.—This 20 year old white male oilfield worker was injured approximately 3 weeks before being seen in our office. At that time he was struck in the forehead with a boomer, and a laceration in the right frontal area was sutured by his physician. Subsequently roentgenograms revealed a fracture in the right frontal sinus, particularly the posterior plates. During this time the patient was entirely asymptomatic.

At surgery, after a coronal incision had exposed the frontal area, the patient was found to have considerable comminution of the right frontal sinus involving the right posterior plate. The right frontal sinus was therefore removed, and the resulting cavity was filled with medullary bone from the hip. A tantalum plate was applied immediately, and the patient's recovery was uneventful.

CASE 4.—This 13 year old white male student was knocked from his bicycle when it collided with an automobile. He was said to have been semicomatose during the first few hours following the accident and, upon being transferred to Odessa the next day, continued to remain semistuporous. Aside from his mental status he was found to have bilateral Babinski reflexes. Roentgenograms revealed a depressed, left frontal skull fracture, not compound, extending laterally toward the left temporal area.

At surgery a flap type incision was used to expose the fracture, which was approximately circular in shape and which was extensively comminuted and depressed. On removal of the fractured fragments a small dural laceration was noted, and upon further opening the dura, a subdural fluid accumulation was encountered, although this was not truly a hematoma. A tantalum plate was then affixed to the edges of the skull defect and the wound was closed. The patient's postoperative condition was good and his recovery has been without complication.

CASE 5.—This 18 year old white school girl was severely injured when the car in which she was riding was involved in a head on collision with another automobile resulting in the death of 6 occupants of the vehicles. The patient was first seen in another hospital where she was given first aid; she was said to have been comatose during this time. She was seen in our hospital on the third day following the injury, and in addition to the coma, the examination disclosed a long, rather irregular skull defect extending from just above the left ear anteriorly to the left forehead area just above the supraorbital ridge, across the midline through both frontal sinuses, ending just above the right eyebrow. This defect was approximately 2 cm. in width and was filled by a mound of cerebral tissue rising approximately 1 cm. above the level of the skull. Roentgenograms revealed the defect to be much more irregular than on inspection, there being several large spicules and spears of bone scattered irregularly along the edges.

Surgery carried out on the third day after the injury included complete removal of all devitalized brain tissue, excision of the macerated scalp edges, debridement of all bone fragments, and a smoothing and an evening off of the edge of the skull defect. In addition it was necessary to remove a large portion of dura corresponding approximately to the skull defect; two large pieces of temporal fascia were then excised and employed to close the dural defect in a water tight manner. After this was accomplished the scalp wound was closed without drainage. This was one instance in which immediate cranioplasty was not done because of the extensive contamination extracranially and intracranially. The patient's subsequent course was excellent, and although she was aphasic for about 3 weeks following the injury and the operation, there was eventual return of speech so that at the end of 6 months the patient was adjudged by members of her family, and by others who knew her, as being completely normal. Cranioplasty was carried out approximately a year after the injury with excellent cosmetic results.

CASE 6.—This 42 year old white man was injured when he was struck just over the right eye with a hammer. He did not lose consciousness, and a small laceration in the injured area was sutured by his attending physician. The same day, however, roentgenograms revealed a fracture of the right frontal bone involving the supraorbital ridge and also extending into the right frontal sinus.

Surgery carried out on the following day, employing a coronal incision, disclosed several broken pieces of bone in the right lower frontal area including the right frontal sinus which were removed. The dura was found to be intact, without evidence of hematoma, and was not opened. Several fine pieces of medullary bone were placed in the resulting cavity, and a tantalum plate was then affixed to the skull. The incision was closed, and the patient's postoperative condition was uneventful. This patient has done well, returned to work shortly after the operation, and has been working ever since without complication or symptoms.

CASE 7.—This 29 year old worker was injured when a dynamite explosion set off nearby propelled a large stone

which struck him in the right frontal area. The blow apparently was very heavy, the patient being knocked to the ground and being rendered unconscious for several minutes. This patient was transferred to our hosptial within a few hours from the time of his accident and, except for a certain slowness of response and of intellectual processes, appeared to be normal mentally. On physical examination there was a large stellate laceration involving the entire right frontal area underlying which there appeared to be a very extensive comminuted fracture. This latter was confirmed by roentgen ray, which revealed several limbs of the fracture running in different directions for a distance of several centimeters.

The operation which was carried out within a few hours following the injury employed the lacerations as incisions, although it was necessary to extend them in order to obtain complete exposure. Severe comminution of almost the entire frontal bone was encountered, and posteriorly several large fragments of bone were driven downward vertically through the dura. All of the fragments of bone were removed and several dural lacerations were closed by means of sutures after the removal of some devitalized cerebral tissue. A large elliptical skull defect approximately 5 by 6 cm. remained. Once again because of the extensive contamination of the wound tantalum cranioplasty was not done at the time but was deferred to a later date. This patient is the only one in the series who had a convulsion, which occurred on the fifth postoperative day. No further convulsions occurred, and the patient has been asymptomatic.

CASE 8.—This 33 year old oilfield worker fell a distance of approximately 40 feet from a point near the top of a drilling rig to the rig floor. He was unconscious for several hours following the accident and was semicomatose for approximately 3 weeks. In addition to the lacerations of the frontal area with evidence of extensive frontal fractures, this patient had many other injuries involving the extremities and trunk which necessitated prior treatment. Roentgenograms of the head revealed severe fractures of both frontal bones involving both frontal sinuses, and extending upward and posteriorly the entire length of the left frontal bone. In addition there was evidence of depression and fragmentation.

This patient at first received treatment of his other injuries, and intracranial exploration was not carried out until about the fifteenth day following the injury. At this time the patient was still semicomatose. On reflection of a coronal flap downward, very extensive, depressed, and elevated fracturing to the left frontal area was disclosed including fragmentation of both frontal sinuses. This is one instance in which the fracture disclosed at surgery was much more extensive and severe than that revealed by roentgenograms. Following removal of all of the fractured fragments the patient was found to have a fairly large extradural hematoma covering the entire left frontal area. This also was removed at the same time. This patient had a history of previous purulent frontal sinusitis, and considerable evidence of this was found at the time of surgery; there was, therefore, no attempt at cranioplasty, the wound merely being closed following complete debridement with evacuation of the hematoma. Postoperatively this patient did well, becoming rapidly more alert, conscious, and rational. This was attributed primarily to removal of the extradural hematoma. It is interesting that pathological investigation of the removed fragments of the frontal sinuses revealed acute and chronic granulomatous inflammation with abscess foci.

This patient's course was more or less uneventful, and 5 months following his injury tantalum cranioplasty was carried out without incident. The patient subsequently has returned to work and has no symptoms with reference to his head injury.

CASE 9.—This 28 year old white man was injured when the car he was driving ran into the back of a flatbed truck. The patient is said to have been unconscious for approximately 30 minutes following the accident, but subsequently became alert, rational, and cooperative. He was found to have very severe depressed fractures of the head and face so that the impression on looking at the patient was one of complete flatness in the front of the head and face. There were several lacerations, one long one over the left eyebrow, and another over the bridge of the nose. On palpation bone fragments could be felt grating about beneath the skin. Roentgenograms revealed fractures involving both frontal sinuses with depression of the anterior plates and with apparent involvement of the posterior plates.

On surgery once again a coronal incision was employed, and the fragmented anterior plates of the frontal sinuses were removed. On inspection of the posterior plates no definite fracture could be demonstrated in spite of the roentgen findings, and these therefore were not removed. The mucous membrane of the sinuses once again was exenterated, and following this a tantalum plate was immediately applied. The lacerations of the frontal scalp were sutured at the same time. This patient's postoperative course was uneventful, and recent examination has revealed no complications. The patient is working without complaint.

CASE 10.—This 18 year old Latin American boy was injured in a vehicular accident, the main injury being sustained in the area of the left frontal sinus. On examination there was swelling and tenderness in this area, and roentgenograms revealed a depressed fracture of the anterior plate of the left frontal sinus.

Treatment in this case was carried out entirely by Dr. Jack Turner, otolaryngologist of Odessa, and demonstrates one form of therapy in these cases. The fracture was reduced by means of an instrument directed through an opening in the anterior plate. The reduction could not be maintained, however, and a balloon was inserted into the left frontal sinus and inflated, thus preventing collapse of the fragments. This patient recovered uneventfully and has had no symptoms with respect to the injury.

Conclusions and Summary

A series of 10 cases is presented in which fractures of the frontal areas of the skull were treated surgically with complete debridement of the injured areas in all but one. Nine of these patients underwent tantalum cranioplasty, 5 at the time of the original operation and 4 subsequently after a lapse of 6 months to a year.

In none of these cases has there been any significant complications such as infection, personality change, convulsions, or important cosmetic defect.

Compound frontal skull fractures involving the paranasal sinuses almost without exception should be operated upon as soon as possible with thorough debridement and, again almost without exception, should receive immediate cranioplasty at the time of the original operation.

Dr. Rader, 315 N. Golder, Odessa.

ABSTRACT OF DISCUSSION

DR. LLOYD A. STORRS, Lubbock*: Dr. Rader's enthusiasm for immediate cranioplasty in severe combined craniofacial head injuries involving mainly the frontal sinuses is not shared by me.

This is a very specialized part of the general care and treatment of combined craniofacial injuries. Of this I am well aware. However, the general over-all picture cannot be overlooked. I have no objections to the utilization of tantalum, bone, or any other prosthetic after the patient has survived the original injury and desires further treatment to improve function or cosmetic appearance.

In my experience I have not found it necessary to use obliterative procedures in treatment of the frontal sinus fractures. In most cases where there is loss of tissue one must repair the structure as well as he can by using any of the grafting techniques that are available. In most cases there has not been a loss of tissue. It has only been displaced, and the problem as it appears to me is the reapproximation of tissue, especially the bony tissue. Even the most severe comminution of the facial bones in most cases can be reapproximated and held in position by wiring with excellent cosmetic and functional results. This is especially true in malar fractures because of the importance of the bone in facial contour, nasal function, and dentition.

The frontal area of course is not so important in function other than facial contour and can be destroyed without too much damage to the patient.

If obliterative frontal sinus surgery is deemed necessary, I believe that it should be done electively after all attempts at reconstruction have failed. This may be a conservative attitude, as was mentioned by Dr. Rader, and may require additional surgery.

There is no substitute for autografts, as we all know, and a severely comminuted frontal sinus represents to me a source of autogenous bone. Dr. Rader obtains his graft as I understand it from the ilium.

I agree that exploration of compounded comminuted frontal sinus fracture should be done as soon as the patient can tolerate such a procedure. It usually can be done immediately, and dural tears and hematoma can be treated at the time of original operation. It requires very little more time to reapproximate the bony fragments of the frontal sinus fracture by using fine stainless steel wire sutures such as 5 and 6 "0" by using the high speed bone drill to drill holes in the small bone fragments and reapproximate them. If the periosteum or endosteal attachment is completely gone, then the fragment is removed. However even the slightest endosteal attachment will be sufficient for survival of the fragment because the endosteum is the primary blood supply for the paranasal sinuses.

In combined craniofacial injuries involving the frontal sinuses the greatest concern (of the doctor) is the development of intracranial suppuration, and equally important is the development of intracranial bleeding.

As was pointed out by Proetz, the posterior two-thirds of the nose and paranasal sinuses are sterile structures—just as sterile as the subarachnoid space—and the possibility of intracranial suppuration from these structures is remote unless there is preexisting disease or the injury is compounded or secondarily infected.

This is analogous to middle cranial fossa fractures involving the middle ear (which is in direct communication with the nasal cavity) by way of the eustachian tube. Unless there is preexisting middle ear disease or unless it is secondarily infected, intracranial suppuration from this source is fairly remote.

It is the general experience that 25 per cent of patients with combined craniofacial injuries develop cerebrospinal fluid rhinorrhea so at least 2 or 3 at most of the cases reported here should have developed cerebrospinal fluid rhinorrhea. The cerebrospinal fluid rhinorrhea may not develop for quite some time because of swelling of the nasal mucosa and sinus mucosa as well as the entrapped blood and clotting.

Early frontal operation of course would demonstrate dural tears in the frontal area which could be closed. This would not, however, eliminate further surgery should a cerebrospinal fluid rhinorrhea develop from sphenoethmoidal fractures or middle cranial fossa fractures involving the middle ear.

One should always remember that when cerebrospinal fluid rhinorrhea is present the patient may be developing extensive intracranial bleeding and will not show the usual sign of increased intracranial pressure (such as slow pulse, slow respiration, and rising blood pressure) because the drainage of cerebrospinal fluid can decompress the brain while the concealed hemorrhage increases and can cause an unexpected or sudden death.

There is no doubt that tantalum cranioplastic procedures are cosmetically excellent and where there has been loss of bony tissue it is generally the operation of choice. However, elevation of fragments and reapproximation by use of fine stainless steel wiring with preservation of function has in my hands been very satisfactory.

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Cholecystography and Cholangiography Today

Routine oral cholecystography using the directions given with radiopaque media often will suffice. For more difficult cases, other methods may be necessary. Regardless of the technique, efforts to keep radiation exposure to a minimum consistent with good diagnosis should be made.

JAMES R. RILEY, M.D.

Corpus Christi, Texas

DRS. GRAHAM AND COLE in the year 1924 introduced both intravenous and oral cholecystography. Although intravenous cholecystography was not widely accepted at that time, oral cholecystography, using tetraiodophenolphthalein, was accepted the world over. Little advance over the early techniques was made until 1944 when Priodax was introduced. With Priodax, we were rid of the objectional side reactions of the earlier medium. However, Priodax, though it produced a good dense shadow on the film, also inhibited the emptying of the gallbladder, and our after-fat films became of little value.

The next real milestone in the radiographic diagnosis of gallbladder disease came in 1952 with the introduction of Telepaque. It would appear that Telepaque has supplanted all other oral media used for visualization of the extrahepatic biliary system.

In 1953, Frommhold described Biligrafin, which could be safely administered intravenously and which had the added advantage of opacifying the biliary ducts as well as the gallbladder. The substance was quickly introduced into the United States under the name of Cholografin. This is the only intravenous medium in widespread use today, for visualization of the extrahepatic biliary system.

The purpose of this presentation will have been fulfilled if I can review the many facets of modern cholecystography and cholangiography and the uses and indications of each.

PLAIN FILM

The value of a plain film of the gallbladder region, preliminary to the administration of a gallbladder dye to the patient, is routine in all radiologists' offices. Most gallstones do not contain enough calcium to show on this preliminary film. However, in an appreciable number of patients, opaque or ringlike faceted shadows characteristic of calculi will appear on the plain film.

As a result of the recent interest in unnecessary radiation exposure of human beings, I am inclined to believe that if the patient is a female in the childbearing age, in all probability the examination should be considered as completed when the single preliminary film reveals the characteristic appearance of calculi in the gallbladder region. If, however, the clinician insists that a complete examination is desired, that is, the patient be given dye and the function of the gallbladder be determined, it behooves the radiologist to use all precautionary measures to reduce the amount of radiation necessary to produce satisfactory films of the region after prescribing the dye, and again after the fatty meal.

As radiologists, we work constantly at trying to limit unnecessary radiation to the patients. I find it frustrating to have a physician who owns an x-ray machine come in with 8 or 10 large films covering an area extending from the base of the right lung down to the symphysis pubis and showing on all

8 or 10 films a little gallbladder 2 inches long, obviously filled with stones.

In a young woman in the childbearing age, it is especially important to use extraordinary care in limiting the amount of radiation to the patient and particularly to the gonads of the patient. The geneticists have written much on this subject, some of which is perhaps exaggerated. However, in the light of knowledge that we have today, we owe it to our patients to get the most possible information from the smallest amount of x-ray exposure consistent with good x-ray diagnosis. One good film is more helpful than 10 films of poor technical quality.

ORAL CHOLECYSTOGRAPHY

Now to continue with routine oral cholecystography: If one follows the directions on the bottle, and takes the pills as directed, an accurate diagnosis of gallbladder—normal or diseased—can be made in perhaps 85 per cent of routine cases. There are very few other tests in medicine that routinely produce such a high percentage of accurate results.

However, there are problems, primarily the poorly functioning viscus with a concentration of dye not great enough to show up cholesterol stones. The old standby for 15 years was to repeat the examination, giving the patient a double dose of dye. This was sometimes effective in a percentage of patients that was small, but indeterminate. The increased concentration resulting is subjected to the scrutiny and prejudices of the individual reviewing the resulting films.

SUGGESTED TECHNIQUE

In our office, for the past 5 or 6 years, we have been employing, with slight variations, the following technique: When the first film made on the morning of the examination reveals a poor concentration or no concentration of dye in the viscus, the patient is interrogated as to the urgency of completing the examination on that day and told that another technique probably would be much more definitive in his case. I have yet to have a patient refuse to cooperate. Each wants the best examination possible. The technique, with variations to suit the individual, consists of prescribing Decholin for 6 days, 2 tablets three times daily, and omitting the last 2 tablets. A fat-free supper is allowed on the sixth day, followed by a single dose of Telepaque with 2 teaspoonsful of paregoric. Three hours later, the second dose of Telepaque is given with paregoric. Patients are instructed to take 3 enemas before reporting for the film examination on the following morning.

As may be evident, our solution of the problem of the poorly functioning gallbladder is a combination of techniques which we believe to be effective. We claim no originality for any part of our regimen.

We have no large series of cases to report. We have begun such statistical studies before, but so much depends on the individual radiologist's interpretation of each case that such a study could never be more than a record of opinions. The only reason for the technique is to improve accuracy in diagnosis. We are well pleased with the technique in this respect.

Our results in the patients with previous nonfunctioning or poorly functioning gallbladders, however, are roughly these:

1. One-half the patients will show a visualization of a gallbladder containing stones—a definite diagnosis of cholelithiasis.
2. One-fourth of the patients will have a normally functioning gallbladder—no evidence of disease.
3. One-fourth, or the remainder, will show again poor or nonvisualization of the gallbladder. These are pathological gallbladders.

Those with no visualization almost invariably have a stone in the cystic duct. A few will have acute cholecystitis and some will have a common duct stone. The failure of visualization of the common duct and failure of contraction of the gallbladder on the film following the fatty meal is at least suggestive of the presence of a stone in the common duct.

Priodax held sway for many years as the best gallbladder dye available. It certainly was an improvement over its tetraiodophenolphthalein predecessors that almost routinely produced cramping and diarrhea. Priodax had one bad defect, however; it inhibited gallbladder contractions, and many of us all but abandoned the routine fatty meal film on this basis. Our logic was that the gallbladder filled; therefore, it had to empty, whether we could demonstrate it or not.

Telepaque, fortunately does not have this characteristic. We believe that the use of this technique will prevent most mistakes of removing a nonfunctioning or poorly functioning gallbladder that the pathologist sees as normal. These patients are not grateful, as their symptoms persist or get worse.

We have noted on numerous occasions that women on extreme reducing diets with a minimal amount of fats in the diet frequently will have nonfunctioning or poorly functioning gallbladders. By simply prescribing a diet liberal in fats for 3 or 4 days and repeating the examination, one often will obtain a good diagnostic concentration of dye in the gallbladder.

OTHER METHODS

There are other methods of making more definitive diagnoses in the case of the nonfunctioning or poorly functioning gallbladder.

Twiss and Gillette have described a method wherein 3 full doses of Telepaque are given, 2 on the evening before and 1 on the morning of the examination, 4 to 5 hours before filming. They occasionally visualize a common duct without visualization of the gallbladder.

In examining difficult cases over a period of years with repeated doses and double doses, all of us have noted occasionally what heretofore has been considered a rare phenomenon, the production of a rim sign, which is actually a thin layer of gallbladder dye deposited on the surface of an otherwise nonidentifiable stone in the gallbladder or common duct.

An excellent article by Salzman and others described a 4 day Telepaque regimen with x-ray examination on the fifth day, which, the authors said, will result in opacification of 75 per cent of common duct stones. It is an article worth reading. Our experience with the method is too limited for further comment.

In another article by Lowman, Davis, and Lawson, several techniques for visualization of the common duct in postcholecystectomy patients were described. In their plan III, 3 doses of Telepaque were given over a period of 48 hours. They reported visualization of the common duct in 22 per cent with this plan. In their article, they did not mention any opacification of stones in the common duct.

To summarize their article, they recommended giving 6 Telepaque pills at 8 p. m. with 2 teaspoonsful of paregoric, 3 pills at midnight, and 3 pills at 6 a. m. Their multiple film examination is carried out between 8 and 10 a. m. the same day. This produced 52.7 per cent visualization of the common duct, as compared with 81 per cent visualization in the same group by the intravenous method. They point out that their oral method is much safer and can be used in many cases where intravenous cholangiography is contraindicated. If the serum bilirubin is greater than 3 mg. per 100 cc., it is unlikely that either oral or intravenous cholangiography will be successful in any significant percentage of patients.

INTRAVENOUS CHOLANGIOGRAPHY

Now let us take up briefly a few points concerning intravenous cholangiography. First of all, probably less than 2 per cent of diseases of the extrahepatic biliary tract are diagnosed on the basis of intravenous cholangiography. The one important indication for intravenous cholangiography, with only occasional exceptions, is for the demonstration of an obstructing lesion of the common duct in the postcholecystectomy patient. The obstruction is most commonly calculus and necessarily incomplete or intermittent. Fibrosis of the sphincter of Oddi and other conditions are less common causes of obstruction.

In spite of high percentages of varying degrees of opacification of the common duct by this method, small or medium sized stones in the lower end of the common duct and ampulla of Vater are frequently missed on the films. An obstructing lesion, calculus or otherwise, should be suspected when the opacification of the common duct is greater at 2 hours than at 1 hour. Conversely, the common duct best visualized at 45 minutes to 1 hour, that shows decreased opacification at 1½ to 2 hours, is probably not obstructed and should be interpreted as a normal cholangiogram, even though the degree of visualization leaves much to be desired.

Dr. James R. Riley, who is in the private practice of radiology, presented this paper for the Section on General Practice at the Texas Medical Association annual session April 21, 1959, in San Antonio.

This approach to the interpretation as to whether or not obstruction of the common duct exists in postcholecystectomy patients has been described by Dr. R. E. Wise in several publications. We have used it for several years in interpreting intravenous cholangiograms and are of the opinion that it is sound.

Complete failure of visualization of the common duct is usually due to one of three circumstances: (1) liver damage, (2) complete obstruction of the duct, or (3) obesity of the patient.

The use of intravenous Cholografin in the differential diagnosis of acute abdominal disease has been described by Dr. Jordan of Los Angeles and Drs. Sparkman and Ellis of Dallas. The visualization of the gallbladder and common duct is good evidence that a given patient does not have acute cholecystitis. Demonstration of the bile ducts without visualization of the gallbladder is presumptive evidence of cholecystitis. One must observe the patient for 2 hours before concluding that the gallbladder is not visualized in this examination. Lack of visualization of any of the extrahepatic biliary system is evidence of either hepatic insufficiency or a complete obstruction of the common duct.

SUMMARY

The techniques given as directions on the envelope or bottle of radiopaque media are good for routine oral cholecystography. There are much more definitive techniques applicable for the difficult cases. Several have been described.

Telepaque and Cholografin have proven their value in improving the accuracy of diagnosis of extrahepatic biliary disease.

Statistical analyses of such things as the percentage of satisfactory visualizations of the common duct are subject to a wide range of human interpretation. We have no way of knowing how many stones in the lower end of the common duct will be missed on the best of radiographic examinations.

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Birth of Experimental Investigations

At the beginning of the twentieth century (January, 1901), Sir William Osler addressed the Johns Hopkins Historical Club on the subject of "Medicine in the Nineteenth Century." An excerpt from his talk, published first in the New York Sun and available in the book "Aequanimitas, With Other Addresses to Medical Students, Nurses and Practitioners of Medicine" (Blakiston), follows:

The most distinguishing feature of the scientific medicine of the century has been the phenomenal results which have followed *experimental investigations.* While this method of research is not new, since it was introduced by Galen, perfected by Harvey, and carried on by Hunter, it was not until well into the middle of the century that, by the growth of research laboratories, the method exercised a deep influence on progress. The lines of experimental research have sought to determine the functions of the organs in health, the conditions under which perversion of these functions occurs in diseases, and the possibility of exercising protective and curative influences on the processes of disease . . . .

The study of physiology and pathology within the past half-century has done more to emancipate medicine from routine and the thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner, and we are as yet but on the threshold.

Management of the Gynecologic Patient With Anemia due to Chronic Blood Loss

Excessive menstrual flow often results in anemia and calls for surgery. Blood transfusion usually is used to correct the hemoglobin level prior to surgery. Iron-dextran given intramuscularly has proved rapid and effective in overcoming anemia and building a reserve in such cases without the dangers of blood transfusion.

JACK A. PRITCHARD, M.D.

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EXCESSIVE MENSTRUAL flow is a complaint commonly encountered by any physician caring for women. In many instances the degree of bleeding will have resulted in the development of moderate to severe anemia. Often some form of surgical procedure is indicated either as an aid in establishing a diagnosis or to achieve a cure of the underlying disease, or both. Therefore, the surgical procedure may range from uterine curettage to hysterectomy.

It would appear from personal observations and from a survey of some of the gynecologic and surgical texts that in this situation the standard practice is prompt transfusion therapy followed by surgery as soon as the hemoglobin level is judged to be satisfactory. The minimum hemoglobin level preoperatively which is usually considered adequate is 10.0 Gm. per 100 ml. of blood.

Etiology of Anemia

Most of these women have become anemic due to chronic intermittent loss of blood. The menstrual period is characterized by a considerable increase in the amount of flow and sometimes an increase in the duration of flow. The interval between the periods of heavy flow, however, usually is longer than 2 weeks and may be as long as 4 weeks. Until recently little attention appears to have been paid by many physicians to the rapidity with which such an anemia can be corrected when specific therapy is given to patients with chronic intermittent excessive blood loss.

In cases of anemia due to periodic excessive blood loss from the genital tract, the deficiency that develops is iron deficiency. Initially, the patient responds to hemorrhage by utilizing the limited iron absorbed by the intestine from dietary sources and to a much greater extent by utilizing any iron which is available in body stores. Unfortunately in many women iron stores are quite low either as the result of multiple gestations or previous episodes of excessive menstrual bleeding, or both. It should be emphasized that the average female during the years of menstrual function is always precariously close to or actually in negative iron balance. Moreover, during the latter half of pregnancy, unless there is active supplementation with iron, she probably is in marked negative iron balance.[3]

For the past 3½ years at Parkland Memorial Hospital in Dallas studies have been carried out to evaluate the merits of utilizing specific therapy to correct chronic blood loss anemia prior to surgery rather than automatically transfusing the patient until the hemoglobin concentration reaches a desired level and then undertaking the surgical procedure. These experiences have been reported recently in some detail.[4]

The following cases are representative of a large group of women with chronic excessive blood loss from the genital tract who have been studied to date to evaluate the rapidity of hemoglobin response in the face of intermittent extensive blood loss.

Representative Cases

CASE 1.—E. M., a 32 year old Negro woman, noted excessive menses for several months. She was first seen at the completion of a quite heavy period. Uterine myomas and severe anemia due to chronic blood loss and iron

deficiency were diagnosed. The hemoglobin level was 6.1 Gm. per 100 ml. and the hematocrit 22. A stained smear of peripheral blood revealed hypochromia; the red cells did not show a sickle configuration. A sample of the patient's red cells was labeled with radioactive chromium, and the total mass of circulating hemoglobin was measured. It was 210 Gm. Two thousand mg. of iron as iron-dextran* were given intramuscularly in daily doses of 250 mg. in each buttock.

Two weeks later the hemoglobin level was 9.1 Gm. Three weeks after therapy was started the hemoglobin level was 10.9 Gm. At this time, as shown in table 1, the total circulating hemoglobin mass was 435 Gm., an increase of 225 Gm. in 3 weeks. An average unit of blood bank blood contains about 70 Gm. of hemoglobin. Therefore, in 3 weeks the bone marrow in response to adequate iron therapy added to the circulation of this patient hemoglobin in excess of that found in 3 pints of blood bank blood.

TABLE 1.—*The Increase in Hemoglobin Concentration and Total Hemoglobin Mass Following Intramuscular Iron Therapy in a Patient with Chronic Menorrhagia and Uterine Myomas.*

Hemoglobin	Initial	Final	Increase
Concentration (Gm./100 ml.)	6.1	10.9	4.8
Total mass (Gm.)	210	435	225

A hysterectomy was performed at this time; no transfusions were given.

CASE 2.—O. B., a 40 year old Negro woman, was first seen complaining of "something moving in her stomach." Her menstrual periods had been regular every 28 to 30 days but had become heavier during the past few years. She complained of easy fatigability but worked as a maid 5 days a week. Physical examination revealed pale mucosa and a uterus containing myomas to the level of the umbilicus. Studies of the peripheral blood revealed hemoglobin 7.3 Gm. per 100 ml., hematocrit 26, reticulocytes 2.6 per cent, erythrocyte hypochromia in a stained blood smear, and a negative test for red cell sickling.

She was given iron-dextran containing 250 mg. of iron in each hip every week for 3 weeks, that is, a total dose of 1,500 mg. of iron. During the next 3 weeks, in spite of having a menstrual period during the second week, the hemoglobin concentration rose to 11.2 Gm. An abdominal hysterectomy was performed at the end of the third week. No transfusions were given.

Postoperatively 500 mg. more of iron-dextran were given to correct the deficiency in body stores of iron. When rechecked 6 weeks after surgery, the hemoglobin level was 13.2 Gm. per 100 ml.

CASE 3.—S. H., a 24 year old laboratory technician, had noted heavy menses for about 8 months and easy fatigability for 2 months. Physical examination revealed no abnormalities except pale mucosa. The level of circulating hemoglobin was 8.0 Gm. per 100 ml. and the hematocrit was 28. Five hundred mg. of iron as iron-dextran were given half in each buttock once a week for 3 weeks. The hemoglobin level rose to 13.7 Gm., an increase of 5.7 Gm. per 100 ml., during the next 3 weeks.

Uterine curettage was carried out and no abnormality was found. Five hundred mg. more of iron were given intramuscularly to assure replenishment of iron stores. During the past 9 months the hemoglobin has ranged from 13.5 to 14.5 Gm. per 100 ml. The patient has had no further menstrual abnormalities during this time.

CASE 4.—J. W., a 29 year old first year medical student, noted fairly profuse menstrual flow without pain for 6 to 8 weeks. There were no symptoms of pregnancy and pelvic examination was normal. The past history was not remarkable. Hematologic studies revealed the following: hemoglobin 5.2 Gm. per 100 ml., hematocrit 19, reticulocytes 4.3 per cent, leukocytes 7,850, and platelets 396,000 per cubic millimeter. Diagnoses were made of probable dysfunctional uterine bleeding and anemia due to persistent blood loss.

Bleeding was promptly combatted with Premarin (conjugated equine estrogens) 20 mg. intravenously each day for 2 days plus 2.5 mg. orally each day for the next 33 days. Five hundred mg. of iron as iron-dextran were given intramuscularly initially, 2 days later, and 2 weeks later.

There was rapid relief of the feeling of weakness and fatigue soon after therapy was started. The rate of hematologic response is shown in table 2. In 2 weeks the hemoglobin level nearly doubled. By 4 weeks it had risen to 11.9 Gm., an increase of 6.7 Gm. per 100 ml. At that time estrogen therapy was stopped and curettage of the uterus was performed. The patient has remained nonanemic and free of symptoms.

Dangers From Blood Transfusions

These severely anemic patients certainly could have been treated by blood transfusion therapy, but would such therapy have been advantageous to them? It must be remembered that blood transfusions are capable of doing more than just good. The many dangers inherent in the use of blood transfusions include the following: (1) gross incompatibility with renal failure; (2) gross incompatibility producing major derangements in the blood coagulation mechanism and hemorrhage; (3) homologous serum hepatitis; (4) contamination of the blood at the time of collection with bacteria which produce lethal endotoxins even during storage in the cold; (5) circulatory overload in patients with severe chronic anemia or cardiac disease; (6) the stimulation of antibody production that may result in a hemolytic

TABLE 2.—*Hematologic Response to Iron Therapy in a Patient with Anemia Due to Menorrhagia.*

	Initial	+7 Days	+14 Days	+21 Days	+28 Days	+33 Days	Increase
Hemoglobin (Gm.)	5.2	6.8	9.0	10.0	11.2	11.9	+6.7
Hematocrit	19.0	26.0	31.0	36.0	39.0	40.0	+21.0
Reticulocytes (%)	4.3	10.1	6.7	5.8	3.4	1.6	

*Imferon, obtained from Lakeside Laboratories, Milwaukee, Wis.

reaction at the time of subsequent blood transfusion or cause erythroblastosis fetalis during a future pregnancy; (7) the masking of anemia due to some cause other than blood loss and iron deficiency.

This is not meant to deemphasize the importance of blood transfusions in some circumstances. At a large institution such as Parkland Memorial Hospital the ability of blood transfusions to save lives is demonstrated daily in cases of active profuse bleeding and hypovolemia leading to shock. Gynecologic patients with anemia due to chronic blood loss, however, rarely fall into this category. Furthermore, the patient who is anemic as the result of repeated episodes of blood loss due to uterine bleeding can rapidly repair a deficit in circulating hemoglobin if the proper building materials are presented to the bone marrow. In such a patient all of the necessary materials for hematopoiesis almost always will be constantly available to the bone marrow in ample amounts with the exception of iron. Therefore, the availability of iron becomes a factor limiting hemoglobin production. If iron is supplied in adequate amounts, the rate of repair is such that hemoglobin equivalent to at least that in 1 pint of blood from the blood bank is added to the circulation each week. No other therapy such as vitamins, liver injections, or trace metals is indicated.

If by chance the anemia is due to some cause other than blood loss and iron deficiency, there will be no response to iron therapy. The time to determine this is during the preoperative period. Even though transfused until the hemoglobin level is adequate, the patient with pernicious anemia who has not received specific treatment is a poor risk for surgery.

Method of Administering Iron

In the cases presented in this report iron was supplied as intramuscular injections of iron-dextran. Considerable experience has been gained with this compound. It differs from intravenous saccharated iron oxide in that serious toxic reactions are rare. The reactions which it produces are local transient soreness, which is fairly common, and occasionally low grade fever and arthralgia. Both soon disappear once therapy is stopped.

In the average female an injection of about 180 mg. of iron as iron-dextran is necessary to supply enough iron to raise the hemoglobin level 1.0 Gm. per 100 ml. Therefore the total dosage required is 180 mg. times the circulating hemoglobin deficit in grams per 100 ml. Moreover, where there has been prolonged bleeding, iron stores are exhausted. It is advantageous to give eventually an additional 500 to 1,000 mg. to replenish them.

As an example for calculating dosage, in case 3 the hemoglobin level initially was 8.0 Gm. per 100 ml. Consequently there was a deficit in circulating hemoglobin of 6 to 7 Gm. per 100 ml. To supply adequate iron for hemoglobin production the amount administered should be 180 x 7, or about 1,250 mg. of iron. Since iron stores were almost certainly depleted a total dose of about 2,000 mg. eventually should be given. This was done, and the iron deficiency undoubtedly was completely relieved.

Dr. Jack A. Pritchard, from the Department of Obstetrics and Gynecology of the University of Texas Southwestern Medical School and Parkland Memorial Hospital, presented this paper for the Section on Obstetrics and Gynecology at the Texas Medical Association annual session in San Antonio April 21, 1959.

A weekly dose of 500 mg. of iron as iron-dextran in almost all instances will supply all the iron that can be utilized by the bone marrow during that time. There is no need other than convenience to give the medication at more frequent intervals. As much as 250 mg. a day for 4 days can be given in each buttock without producing any reaction other than some local soreness. To be absorbed and utilized the material must be placed in the muscle and not in the subcutaneous tissue. Any iron-dextran placed in the subcutaneous tissue is not absorbed. This must be kept in mind especially when an obese patient is being treated.

It should be emphasized that in many instances oral iron would be equally effective in restoring the hemoglobin level if the patient would take and retain an adequate dose each day. Under these circumstances 1 to 2 Gm. of ferrous gluconate or ferrous sulfate given in divided doses each day should produce a prompt increase in the level of circulating hemoglobin. Iron stores, however, probably would be replenished much more slowly.

Prophylaxis

Some consideration should be given to prophylaxis in those instances where excessive menstrual bleeding is encountered and severe anemia has not yet developed. All too frequently the physician devotes his energies toward correction of the excessive bleeding

by means of curettage, hormonal therapy, or both, and fails to consider the impact of excessive blood loss. Ultimately iron stores will be exhausted, and then severe anemia can develop rapidly. Two examples demonstrating the value of iron therapy in these circumstances are briefly presented:

CASE 5.—A 35 year old woman with 3 previous cesarean sections and a tubal ligation complained of progressively heavier menstrual flow for about 1 year. The hemoglobin level was 11.0 Gm. per 100 ml. Uterine curettage did not alter the amount of flow. Oral iron therapy, 1 Gm. of ferrous gluconate a day, was started. In spite of continued heavy flow each month the hemoglobin level at the time of hysterectomy 6 months later was 14.2 Gm. per 100 ml.

CASE 6.—A 34 year old woman with a similar menstrual history and uterine myomas had a hemoglobin level of 10.4 Gm. per 100 ml. She refused hysterectomy at that time, and uterine curettage did not produce a decrease in menstrual flow. She similarly was placed on oral iron therapy. Seven months later a hysterectomy was performed and a large submucous myoma was found. Preoperatively the hemoglobin level was 13.7 Gm. per 100 ml.

In both instances failure to supply iron undoubtedly would have resulted in moderate to severe anemia at the time of hysterectomy rather than the normal hemoglobin levels which were found. Utilizing phlebotomy to produce chronic intermittent blood loss, Coleman and associates have shown that 500 ml. of blood can be lost as often as every 2 weeks without significant anemia developing *if supplementary iron is given.*[2] Again it should be pointed out that the sole hematinic needed to correct or prevent anemia due to blood loss is iron.

The program presented for managing the gynecologic patient with anemia due to chronic intermittent excessive blood loss is not completely new. The experiences and recommendations of Thompson at the Johns Hopkins University and Beutler at the University of Chicago are practically identical to those detailed in this report.[1, 5] It is hoped that the procedure will become more widespread.

Conclusions

Iron therapy used preoperatively will correct promptly the anemia due to chronic excessive blood loss in gynecologic patients. The common practice of utilizing multiple transfusions to accomplish this same result is condemned.

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ABSTRACT OF DISCUSSION

DR. FRANK POSEY, San Antonio: In areas in which blood is readily available for transfusion through blood banks the practice of administering whole blood to the severely anemic patient preoperatively has become the usual procedure. The ease of obtaining and giving a specific substance plus the rapidity with which the condition is corrected are the attractive features.

It has been my feeling for some time that transfusion for most of these patients has been overdone; however, I must admit that I have "gone along" with what may be called the generally accepted practice to a large extent. During the past year I have given intramuscular iron more and more, particularly to obstetrical patients, and the results have been gratifying.

Dr. Pritchard has shown conclusively what can be done with intramuscular iron and has pointed out some of the disadvantages of transfusion in the correction of chronic anemia. Having had firsthand experience, I should like to reemphasize a few of the hazards associated with the administration of whole blood. Even in the best of laboratories mistakes in typing, cross-matching, Rh determinations, and mislabeling occur. In the best of hospitals errors such as giving a transfusion to the wrong patient in a semiprivate room in which the identity of the patient was confused have occurred. True, such errors are apt to be infrequent; however, even an occasional renal shutdown or Rh sensitization would make the practice of correcting a chronic anemia by transfusion less attractive when other safer and equally effective measures are available.

Another point which during the present era of increasing malpractice suits deserves mention is the recent ruling of the New York Supreme Court in favor of the plaintiff in that since the blood administered to her was sold, it was, therefore, a commodity and like all commodities carried an implied warranty of safety by those who bought the blood. This patient had developed hepatitis following transfusion, a complication which certainly could not be foreseen.

Reactions to intramuscular iron are infrequent, as Dr. Pritchard has pointed out. I have encountered none in my limited experience with the exception of local pain at the site of injection. In addition to localized pain and arthralgia, which Dr. Pritchard has mentioned, there are reports in the literature of skin rashes, anaphylactoid reaction, urticaria, and angioneurotic edema. All of these are rare and certainly should not cause hesitancy in instituting treatment.

Although correction of chronic anemia by intramuscular iron can well apply to the majority of gynecologic patients, a suspected endometrial carcinoma obviously should not be allowed to undergo a waiting period of several weeks for the correction of anemia before tissue diagnosis and specific treatment are started. The vast majority of patients I encounter with chronic anemia due to blood loss, however, are patients with dysfunctional uterine bleeding or uterine fibroids. These are the patients that Dr. Pritchard has shown so well will respond to treatment with intramuscular iron.

CASE REPORTS

Now a rarity, costal chondritis due to Salmonella typhosa with recurrent abscess formation is reported. Treatment with chloramphenicol and block excision with primary closure resulted in cure.

Costal Chondritis due to Salmonella Typhosa

Report of a Case

JOHN H. SEWELL, M.D.

Fort Worth, Texas

TYPHOID FEVER and secondary complications due to Salmonella typhosa have been relegated to the status of rare diseases on the American medical scene in the past 50 years. From being a cause of illness that had both endemic and epidemic propensities over large areas of the world and that was attended by a relatively high morbidity and mortality, Sal. typhosa is seldom encountered in laboratories in this country now. Consequently, it was a surprise when a report of Sal. typhosa was made on a culture taken from an abscess of the chest wall.

CASE REPORT

Miss E. J., a 71 year old white woman, was seen in the office on February 10, 1953, with a subcutaneous abscess in the right anterior chest wall of several weeks' duration. It was located medial to the nipple line and below the breast. She stated that an abscess in this same position had been drained 5 years previously. She had remained well in the interim.

There was no history of tuberculosis or other chest diseases. She had typhoid fever at age 36 (though this history was not obtained when she was first seen). A pelvic laparotomy for uterine fibroids was done in 1945. She had diabetes for which she received 40 units of long acting insulin daily. The control of her diabetes never had been a problem during her recent illness and surgery. Her general health was excellent.

The patient was a well preserved elderly woman in good physical condition. Examination was normal except for an apparent abscess on the right anterior chest wall beneath the inferior mammary fold. There were no abnormal pulmonary findings. No axillary nodes were palpable. White blood count and differential were normal.

Incision and drainage of the abscess was carried out with biopsy of the wall. No cultures were reported, and the biopsy showed only nonspecific chronic inflammatory changes. Five days later the resultant cavity was injected with iodochlorol, and roentgenograms showed the cavity to be entirely anterior to the bony structure of the thoracic cage and extending from the right border of the sternum to the right anterior axillary line at the level of the eighth rib.

This cavity gradually healed over a 3 week period.

The patient was seen again on November 24, 1954, with a recurrence of the abscess. Drainage was carried out and culture revealed Staphylococcus albus. Neomycin ointment was used locally, and drainage ceased by December 6.

The abscess recurred, and the patient was seen on September 12, 1956, about 1 week after the onset of swelling and tenderness in this area. Complete physical examination at this time was again essentially normal. There was no

evidence of intrathoracic or abdominal disease. Vital signs, complete blood count, and urinalysis were normal. Incision and drainage of the abscess under local anesthesia produced about 100 cc. of bright yellow pus. Cultures of this were reported to show Staph. albus (coagulase negative) and Salmonella typhosa. This latter was quite sensitive to chloramphenicol and Polymixin B, less so to the tetracycline group, and resistant to penicillin, streptomycin, and erythromycin. The laboratory was consulted and the possibility of contamination discounted.

It was at this time the old history of typhoid fever was forthcoming. There had been no recent gastrointestinal disturbances. Repeated cultures of the stool were negative for Sal. typhosa. Roentgenograms of the gallbladder showed a normally functioning gallbladder. Chest roentgenograms showed no pulmonary or rib involvement. At the time of drainage, it was apparent that a costal cartilage or rib formed the floor of the cavity. Injection of the cavity with radiopaque material showed it to be in the same position as before but much smaller.

Serum agglutinations for Typhoid "O" and "H," Paratyphoid "A" and "B," Brucella, and Proteus OX 19 were all negative.

Chloramphenicol, 0.5 Gm., four times daily was begun, and 5 days later, October 3, 1956, the patient was admitted to Harris Hospital, where a block excision of the area was done under general anesthesia. A portion of the eighth rib and costal cartilage was removed subperiosteally and included in the specimen. A primary closure was done. Cultures taken at the time of surgery showed no growth. The patient was discharged from the hospital 4 days later. Chloramphenicol was continued until the tenth postoperative day. The wound healed per primum, and there has been no recurrence of inflammation.

The pathological specimen consisted of skin, subcutaneous tissue, sinus tract, and rib with costal cartilage. The gross appearance was not remarkable except for multiple small old hemorrhagic spots in the periosteum. (This had been noted on the biopsy specimen of the abscess wall 3 years previously.) The microscopic appearance of the sinus tract revealed only fibrosis with chronic inflammatory changes. In the rib there was degeneration of the cartilage cells but no inflammation. No specific etiology was apparent.

DISCUSSION

Although there was no active osteochondritis present in this case, I believe this to have been the cause of the degeneration and abscess since the rib and cartilage formed the floor of the abscess and there were degenerated cartilage cells present.

It was apparent from both the preoperative roentgenograms and the findings at operation that this process did not arise within the chest though pulmonary and subphrenic abscesses due to Sal. typhosa have been recorded in literature.[1, 2] Likewise, typhoid mastitis has occurred,[4] but this lesion was well below the breast.

Osteomyelitis due to Sal. typhosa was a relatively rare complication of typhoid fever even in the past when the systemic disease was rather common. Murphy,[7] in 1916, reported a .82 per cent incidence of osteomyelitis in 18,840 cases of typhoid fever. Morse and Geiser,[6] in 1950, collected 27 cases of osteomyelitis due to Sal. typhosa from the literature. Maier[5] mentioned that in the past, costal chondritis has been caused rather often by typhoid and paratyphoid organisms. In Murphy's collected series, ribs were involved more often than any other bone, being followed in incidence by the spine and the tibia.

Dr. John H. Sewell is a practicing surgeon.

Since the advent of antibiotics, there have been numerous reports of their use and efficacy in the treatment of typhoid fever and its complications. Many have been used successfully, but determination of the sensitivity of the organism in each case is desirable. Chloramphenicol rather than Polymixin B (the antibiotics the organism was most sensitive to) was used in this case because of its lower toxicity. Successful treatment of typhoidal osteomyelitis with chloramphenicol alone has been reported.[6] However, the surgical removal of all involved tissue adheres to the basic concepts of treatment of chronic abscesses and draining sinuses, particularly where bone or cartilage is involved. Primary closure of the wound seemed ideal since only healthy tissue had been encountered in the dissection.

This concept of treatment was strongly advocated by Murphy as a means of preventing extension of the disease and a prolonged convalescence, which occurred so frequently when open drainage was used.

However, prior to the advent of antibiotics, these wounds remained infected and broke down often enough that primary closure was used much less frequently.

Several cases[7, 8] are reported of typhoid infection of the ribs or costal cartilages where multiple operative procedures were needed to eradicate the disease after extension had occurred to 3 or more ribs. But now that the inflammatory phase of the disease usually can be controlled medically, surgical excision of the nidus of infection can be carried out successfully.

Although such a cause of osteomyelitis will rarely be found, primary closure following excision of rib and cartilage is well carried out in infections caused by other agents. Brown and Trenton[3] reported several cases of sternal osteomyelitis and costal chondritis due to tuberculosis treated successfully in this

manner. They, and others,[5] emphasized that not only all involved, but all exposed cartilage should be excised to prevent drainage from that which remains in the operative site. Such a wide excision was not done here as no actual suppuration of the cartilage was present and no involved cartilage was exposed during surgery.

SUMMARY

A case of costal chondritis due to Salmonella typhosa with recurrent abscess formation is presented. Treatment with chloramphenicol and block excision with primary closure of the lesion resulted in cure.

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Typhoid Fever Three Decades Ago

"Relegated to the status of rare diseases on the American medical scene . . ." were words Dr. John H. Sewell of Fort Worth used to describe diseases due to Salmonella typhosa in his preceding article. Only 32 years ago, however, another Fort Worth physician, Dr. W. A. Davis, authored a Journal article May, 1928, page 31, "The Carrier in Typhoid Fever Epidemics," in which he reported that city's effort to control the disease (then not such a rarity) and drew some conclusions on existing laws governing carriers. Following are excerpts:

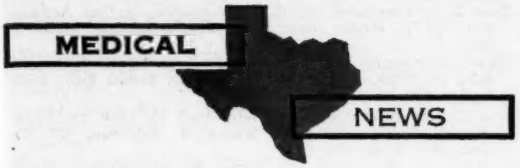
It is interesting to note that while the investigation was begun with only fifteen cases reported, and the corrective measures adopted were based on the data collected, the further study of additional cases resulted only in substantiating the conclusions previously drawn, with only two contact cases appearing at the close of the epidemic. The results of the epidemic may be summarized as follows: (1) There was a total of 46 cases; (2) there was one contact case in the beginning and possibly two at the close of the epidemic; (3) one chronic and five passive carriers were detected and excluded from the food handling establishments; (4) the City Council ordered the Health Department to run the brilliant green test for typhoid fever on all food handlers; (5) the patients in the 46 cases, all together, lost more than three years and nine months' time from their usual occupations and 16 patients spent more than nine months in the hospitals, not to mention drug bills, doctor bills or time lost by other members of the families, nor the sorrow occasioned by the seven deaths, one of which was especially felt by the medical profession of Fort Worth.

We may draw the following conclusions:

1. The state law requiring "an examination one week prior to employment" and prohibiting any "person infected with or affected by an infectious disease" from handling food, is inadequate for such a method will not discover the carrier.

2. The statement of the applicant made to his physician, even though the applicant be honest and the physician painstaking, is no protection against the carrier of communicable disease.

3. Since it is not only the case but in most instances, "the person who without symptoms of a communicable disease harbors and disseminates the specific microorganism," the ordinance or statute regulating food handlers must require the necessary laboratory test if the spread of communicable disease through food handling is to be prevented. And even such a law will not protect against diseases scattered through the chain stores.



★ Coming Meetings

Texas Medical Association, Fort Worth, April 9-12, 1960 (Executive Board, Jan. 17, 1960). Dr. F. W. Yeager, Corpus Christi, Pres.; Mr. C. Lincoln Williston, 1801 North Lamar Blvd., Austin, Exec. Secy.

American Medical Association, Miami Beach, June 13-17, 1960. Dr. Louis M. Orr, Orlando, Fla., Pres.; Dr. F. J. L. Blasingame, 535 North Dearborn, Chicago 10, Exec. Vice-Pres.

Current Meetings

FEBRUARY

American College of Allergists, Miami Beach, Feb. 28-March 4, 1960. Dr. Cecil M. Kohn, Kansas City, Pres.; Mr. Eloi Bauers, 2160 Rand Tower, Minneapolis, Executive Vice-Pres.

American College of Radiology, New Orleans, Feb. 3-6, 1960. Dr. Lawrence Reynolds, 10 Peterboro, Detroit, Pres.; Mr. W. C. Stronach, 20 N. Wacker Dr., Chicago 6, Executive Director.

Texas Association for Mental Health, Austin, Feb. 18-20, 1960. Paul Southern, Ph.D., Abilene, Pres.; Mr. John Lane, 2410 San Antonio, Austin, Executive Director.

Texas Association of Obstetricians and Gynecologists, Austin, Feb. 12-13, 1960. Dr. Maurice Meynier, Houston, Pres.; Dr. Hugh W. Savage, 815 Fifth Ave., Fort Worth, Secy.

Texas Proctologic Society, Dallas, February, 1960. Dr. Alvin Baldwin, Dallas, Pres.; Dr. H. Gray Carter, 915 St. Joseph St., Dallas, Secy.

Texas Public Health Association, Galveston, Feb. 22-24, 1960. Mr. Tom Warren, Austin, Pres.; Mr. Joseph N. Murphy, Jr., Box 4012, Austin 51, Executive Secy.

First District Society, Pecos, Feb. 5, 1960. Dr. H. D. Garrett, El Paso, Pres.; Dr. E. S. Crossett, 1501 Arizona St., El Paso, Secy.

Eleventh District Society, Tyler, February 25, 1960. Dr. Ben Wilson, Tyler, Pres.; Dr. Phillip W. Taylor, 833 S. Beckham, Tyler, Secy.

MARCH

American Academy of General Practice, Philadelphia, March 19-24, 1960. Dr. Fount Richardson, Fayetteville, Ark., Pres.; Mr. Mac F. Cahal, Volker Blvd. at Brookside, Kansas City 12, Executive Secy.

American Gastroenterological Association, New Orleans, March 31-April 2, 1960. Dr. H. Marvin Pollard, Ann Arbor, Pres.; Dr. Wade Volwiler, Secy., University of Washington School of Medicine, Seattle 5.

American Laryngological, Rhinological, and Otological Society, Miami Beach, March 15-17, 1960. Dr. Theodore E. Walsh, St. Louis, Pres.; Dr. C. S. Nash, 708 Medical Arts Bldg., Rochester, N. Y., Secy.

South Central Association of Blood Banks, Albuquerque, March or April, 1960. Dr. John B. Alsever, Phoenix, Pres.; L. Ruth Guy, Ph.D., Room 1101, Stonleigh Hotel, Dallas, Secy.

Southwestern Society of Nuclear Medicine, San Antonio, March 26-27, 1960. Dr. Peter E. Russo, Oklahoma City, Pres.; Dr. J. R. Maxfield, Jr., 2711 Oak Lawn Avenue, Dallas, Secy.

Southwestern Surgical Congress, Las Vegas, Nev., March 28-31, 1960. Fort Smith, Ark., Dr. Fred H. Krock, Fort Smith, Ark., Pres.; Mary O'Leary, 813 Medical Arts Bldg., Oklahoma City, Exec. Secy.

Texas Tuberculosis Association, Abilene, March, 1960. Mr. Zeb Rike, McAllen, Pres.; Miss Pansy Nichols, P. O. Box 6158, Austin 21, Executive Director.

Second District Society, Midland, March 6, 1960. Dr. Oscar E. Rhode, Colorado City, Pres.; Dr. John H. Chinn, Jr., Colorado City, Secy.

Ninth District Society, Brenham, March 17, 1960. Dr. Haden E. McKay, Humble, Pres.; Dr. Lyman C. Blair, 1212 Rothwell, Houston, Secy.

Dallas Southern Clinical Society Conference, Dallas, March 21-23, 1960. Dr. T. Taynes Harvill, Dallas, Pres.; Millard J. Heath, 433 Medical Arts Bldg., Dallas 1, Executive Officer.

New Orleans Graduate Medical Assembly, New Orleans, March 7-10, 1960. Dr. Ambrose H. Storck, New Orleans, Pres.; Mrs. Irma B. Sherwood, 430 Tulane Ave., New Orleans 12, Executive Secy.

National and Regional

American Academy of Allergy, Hollywood-by-the-Sea, Fla., Jan. 11-13, 1960. Dr. Francis C. Lowell, Boston, Pres.; Dr. Joseph Noah, 100 N. Euclid Ave., St. Louis 8, Mo., Secy.

American Academy of Dermatology and Syphilology, Chicago, Dec. 3-8, 1960. Dr. Francis W. Lynch, St. Paul, Minn., Pres.; Dr. Robert R. Kierland, Mayo Clinic, Rochester, Minn., Secy.

American Academy of Ophthalmology and Otolaryngology. Dr. John H. Dunnington, New York, Pres.; Dr. W. L. Benedict, 15 Second St. S.W., Rochester, Minn., Secy.

American Academy of Pediatrics, Atlantic City, April 20-22, 1960. Dr. William W. Belford, San Diego, Calif., Pres.; Dr. E. H. Christopherson, 1801 Hinman Ave., Evanston, Ill., Executive Director.

American Association for Maternal and Infant Health. Dr. M. Edward Davis, Chicago, Pres.; Mrs. Patricia Dorr, 116 S. Michigan Ave., Chicago 3, Executive Director.

American Association for Thoracic Surgery, Miami Beach, May 11-13, 1960. Dr. William E. Adams, Chicago, Pres.; Dr. Hiram T. Langston, 7730 Corondelet Ave., St. Louis 5, Secy.

American Association of Genito-Urinary Surgeons, Dearborn, Mich., May 11-13, 1960. Dr. Reed M. Nesbitt, Ann Arbor, Mich., Pres.; Dr. W. J. Engel, 2020 E. 93rd St., Cleveland 6, Secy.

American Association of Obstetricians and Gynecologists, Hot Springs, Va., Sept. 8-10, 1960. Dr. Robert A. Ross, Chapel Hill, N. C., Pres.; Dr. Clyde L. Randall, 216 Summer St., Buffalo 22, Secy.

American Association of Plastic Surgeons, Milwaukee, May 17-20, 1960. Dr. Lyndon A. Peer, New Jersey, Pres.; Dr. Thomas D. Cronin, 6615 Travis St., Houston 25, Secy.

American Cancer Society, New York, Oct. 26-27, 1960. Dr. Warren H. Cole, Chicago, Pres.; Mr. Granville Whitelesey, 521 West 57th St., New York 19, Secy.

American College of Chest Physicians, Miami Beach, Fla., June 8-12, 1960. Dr. Seymour M. Farber, San Francisco, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut, Chicago 11, Executive Director.

American College of Gastroenterology, Philadelphia, Oct. 23-29, 1960. Dr. Joseph Shaiken, Milwaukee, Pres.; Mr. Daniel Weiss, 33 West 60th, New York 23, Executive Director.

American College of Obstetricians and Gynecologists, Cincinnati, April 3-6, 1960. Dr. John I. Brewer, Chicago, Pres.; Mr. Donald F. Richardson, P. O. Box 749, Chicago 90, Executive Secy.

American College of Physicians, San Francisco, April 4-8, 1960. Dr. Howard P. Lewis, Portland, Ore., Pres.; Mr. E. R. Loveland, 4200 Pine, Philadelphia 4, Secy.

American College of Surgeons. Dr. Owen H. Wangensteen, Minneapolis, Pres.; Dr. William E. Adams, 950 E. 59th St., Chicago, Secy.

American Congress of Physical Medicine and Rehabilitation, Washington, D.C., Aug. 21-26, 1960. Dr. F. J. Kottke, Minneapolis, Pres.; Dorothea C. Augustin, 30 N. Michigan Ave., Chicago 2, Executive Secy.

American Dermatological Association, Boca Raton, April 8-12, 1960. Dr. Marion B. Sulzberger, New York, Pres.; Dr. Wiley M. Sams, 308 Ingraham Bldg., Miami 32, Secy.

American Gynecological Society, Williamsburg, Va., May 30-June 1, 1960. Dr. Karl H. Martzloff, Portland, Pres.; Dr. A. A. Marchetti, 3800 Reservoir Rd. N.W., Washington 7, D. C., Secy.

American Heart Association, St. Louis, Oct. 21-25, 1961. Dr. A. Carlton Ernstene, Cleveland, Pres.; Mr. William F. McGlone, 44 E. 23rd, New York 10, Secy.

American Hospital Association, San Francisco, Aug. 29-Sept. 1, 1960. Dr. Russell A. Nelson, Baltimore, Md., Pres.; Dr. Edwin L. Crosby, 18 E. Division Street, Chicago, Executive Director.

American Neurological Association, Boston, June 13-15, 1959. Dr. Derek Denny-Brown, Boston, Pres.; Dr. Melvin D. Yahr, New York Neurological Institute, 710 W. 168th Street, New York 32, Secy.

American Ophthalmological Society, Colorado Springs, May 16-18, 1960. Dr. A. B. Reese, New York, Pres.; Dr. M. C. Wheeler, 30 W. 59th, New York 19, Secy.

American Orthopaedic Association, Hot Springs, Va., May 30-June 2, 1960. Dr. John Royal Moore, Philadelphia, Pres.; Dr. Lee Ramsay Straub, 535 East 70th St., New York 21, Secy.

American Pediatric Society, Swampscott, Mass., May 5-6, 1960. Dr. Samuel Z. Levine, New York, Pres.; Dr. A. C. McGuinness, Room 1036, 2800 Quebec St., N.W., Washington 8, D. C., Secy.

American Proctologic Society, Houston, April 25-27, 1960. Dr. H. R. Reichman, Salt Lake City, Pres.; Dr. Norman D. Nigro, 10 Peterboro, Detroit 1, Secy.

American Psychiatric Association, Atlantic City, N. J., May 9-13, 1960. Dr. William Malamud, New York, Pres.; Dr. C. H. Hardin Branch, 156 Westminister Ave., Salt Lake City, Secy.

American Public Health Association, San Francisco, Oct. 31-Nov. 4, 1960. Dr. Malcolm H. Merrill, Berkeley, Calif., Pres.; Dr. Berwyn F. Mattison, 1790 Broadway, New York 19, Executive Secy.

American Society of Anesthesiologists, New York, Oct. 2-7, 1960. Dr. J. Earl Remlinger, Jr., Wilmette, Ill., Pres.; Dr. Robert L. Patterson, 612 Bershire Drive, Pittsburgh 15, Secy.

American Society of Clinical Pathologists, Chicago, Sept. 24-Oct. 2, 1960. Dr. John J. Clemmer, Albany, Pres.; Mr. Claude E. Wells, 445 Lake Shore Drive, Chicago 11, Executive Secy.

American Surgical Association, White Sulphur Springs, W. Va., April 3-6, 1960. Dr. Warren H. Cole, Chicago, Pres.; Dr. William Altemeier, Cincinnati General Hospital, Cincinnati 29, Secy.

American Urological Association, Chicago, May 16-19, 1960. Dr. William M. Coppridge, Durham, N. C., Pres.; Mr. William P. Didusch, 1120 N. Charles St., Baltimore 1, Executive Secy.

Association of American Physicians and Surgeons, St. Louis, Sept. 29-Oct. 1, 1960. Dr. Louis Wegryn, Elizabeth, N. J., Pres.; Mr. Harry E. Northam, 185 N. Wabash Ave., Chicago 1, Executive Director.

International College of Surgeons, U. S. Chapter, Rome, Italy, May 15-18, 1960. Dr. Henry Meyerding, Rochester, Minn., Pres.; Dr. Ross T. McIntire, 1516 Lake Shore Dr., Chicago, Executive Director.

National Tuberculosis Association, Los Angeles, May 15-20, 1960. Dr. H. McLeod Riggins, New York, Pres.; Mrs. Wallace B. White, 651 Marlborough Rd., Brooklyn, Secy.

Radiological Society of North America. Dr. Lawrence L. Robbins, Boston, Pres.; Dr. Donald S. Childs, 713 E. Genesee, Syracuse 2, N. Y., Secy.

Southern Medical Association. Dr. Edwin Hugh Lawson, New Orleans, Pres.; Mr. V. O. Foster, 2601 Highland Ave., Birmingham 5, Executive Secy.

Southern Medical Association, Atlanta, Ga., Nov. 16-19, 1960. Dr. Milford O. Rouse, Dallas, Pres.; Mr. V. O. Foster, 2601 Highland Avenue, Birmingham 5, Executive Secy.

Southern Psychiatric Association, Virginia Beach, Va., Oct. 2-4, 1960. Dr. David A. Wilson, Charlottesville, Va., Pres.; Dr. Richard Proctor, Winston-Salem, N. C., Secy.

Southern Surgical Association, Boca Raton, Fla., Dec. 6-8, 1960. Dr. Francis Massie, Pres.; Dr. John D. Martin, Jr., Emory University, Ga., Secy.

Southwest Allergy Forum, Oklahoma City, April 2-5, 1960. Dr. Johnny A. Blue, Oklahoma City, Pres.; Dr. George L. Winn, Suite 104, Lister Medical Building, 430 Northwest Twelfth St., Oklahoma City, Secy.

Southwest Regional Cancer Conference. Dr. W. S. Lorimer, Jr., Fort Worth, Chm.; Mrs. Ira Frances Ball, 264 W. 11th, Fort Worth, Secy.

Southwestern Medical Association, St. Louis, Oct. 31-Nov. 3, 1960. Dr. Edwin H. Lawson, New Orleans, Pres.; Mr. Robert F. Butts, 2601 Highland Avenue, Birmingham, Ala., Executive Secy.

Tri-State Medical Assembly. Dr. R. B. Langford, Shreveport, Pres.; Dr. J. W. Wilson, Jr., 940 Margaret Place, Shreveport, Secy.

United States-Mexico Border Public Health Association, Hermosillo, Sonora, Mex., April 4-8, 1960. Mr. Frank J. Von Zuben, Jr., Austin, Pres.; Dr. Jorge Román, 243 United States Court House, El Paso, Secy.

State

Private Clinics and Hospitals Association of Texas, Dallas, December, 1960. Dr. Vance Terrell, Stephenville, Pres.; Mr. J. J. George, 3404 54th St., Lubbock, Executive Secy.

Texas Academy of General Practice, Dallas, Oct. 3-5, 1960. Dr. E. Sinks McLarty, Galveston, Pres.; Mr. Donald C. Jackson, 1905 N. Lamar, Austin, Executive Secy.

Texas Academy of Internal Medicine. Dr. Merton M. Minter, San Antonio, Pres.; Dr. Hugo T. Engelhardt, 1216 Main, Houston, Secy. Meetings restricted to members.

Texas Air-Medics Association, Fort Worth, April 9-11, 1960. Dr. W. W. Sumner, Fort Worth, Pres.; Dr. C. F. Miller, P. O. Box 1338, Waco, Secy.

Texas Association of Public Health Physicians, Fort Worth, April 10, 1960. Dr. Fred K. Laurentz, Houston, Pres.; Dr. B. M. Primer, 2708 Rio Grande, Austin, Secy.

Texas Chapter, American College of Chest Physicians, Fort Worth, April 10, 1960. Dr. L. M. Shefts, San Antonio, Pres.; Dr. John W. Middleton, 900 Strand, Galveston, Secy.

Texas Chapter, American Academy of Pediatrics, Fort Worth, April 11, 1960. Dr. J. T. Bennett, El Paso, Pres.; Dr. W. W. Kelton, 108 West 30th, Austin, Secy.

Texas Club of Internists. Dr. W. W. Bondurant, Jr., San Antonio, Pres.; Dr. T. Haynes Harvill, Medical Arts Building, Dallas 1, Secy.

Texas Dermatological Society, Fort Worth, April 11, 1960. Dr. Edmund N. Walsh, Fort Worth, Pres.; Dr. D. Shelton Blair, 1609 Medical Arts Building, Dallas, Secy.

Texas Diabetes Association, Fort Worth, April 10, 1960. Dr. Ralph Greenlee, Midland, Pres.; Dr. Warren W. Moorman, 901 W. Leuda, Fort Worth, Secy.

Texas Division, American Cancer Society. Dr. John A. Wall, Houston, Pres.; Mr. Curt W. Reimann, 5014 Bull Creek Rd., Austin 3, Executive Director.

Texas Heart Association. Dr. Robert E. Leslie, El Campo, Pres.; Mr. Ernest T. Guy, 404 Jesse H. Jones Library Building, Houston 25, Executive Director.

Texas Hospital Association, Dallas, May 10-12, 1960. Mr. F. S. Walters, Jr., Amarillo, Pres.; Mr. O. Ray Hurst, 2208 Main, Dallas, Executive Director.

Texas Industrial Medical Association, Fort Worth, April 10, 1960. Dr. Max E. Johnson, San Antonio, Pres.; Dr. J. G. Burdick, P. O. Box 472, Pasadena, Secy.

Texas Neuropsychiatric Association, Fort Worth, April 10, 1960. Dr. Hamilton Ford, Galveston, Pres.; Dr. E. Ivan Bruce, 1014 Strand, Galveston, Secy.

Texas Ophthalmological Association, Fort Worth, April 11-12, 1960. Dr. Max Baldridge, Texarkana, Pres.; Dr. James H. Scruggs, 2223 Austin Ave., Waco, Secy.

Texas Orthopedic Association, Fort Worth, April 11, 1960. Dr. David M. Cameron, El Paso, Pres.; Dr. Margaret Watkins, 3503 Fairmount, Dallas, Secy.

Texas Otolaryngological Association, Fort Worth, April 12, 1960. Dr. Herbert H. Harris, Houston, Pres.; Dr. Louis E. Adin, 3707 Gaston, Dallas, Secy.

Texas Pediatric Society, October, 1960, Dallas. Dr. Byron York, Houston, Pres.; Dr. C. E. Gilmore, 811 Bonham, Paris, Secy.

Texas Physical Medicine and Rehabilitation Society, Fort Worth, April 12, 1960. Dr. Edward M. Krusen, Dallas, Pres.; Dr. Oscar Selke, Medical Professional Building, Houston, Secy.

Texas Radiological Society, Houston, January 22-24, 1960. Dr. Herman C. Sehested, Fort Worth, Pres.; Dr. R. P. O'Bannon, 1216 Pennsylvania, Fort Worth, Secy.

Texas Rheumatism Association, Dallas, Dec. 9, 1960. Dr. Howard C. Coggeshall, Dallas, Pres.; Dr. J. Morris Horn, 3707 Gaston, Dallas, Secy.

Texas Society of Anesthesiologists, Fort Worth, April 10, 1960. Dr. David O. Johnson, Austin, Pres.; Dr. M. T. Jenkins, Parkland Hospital, Dallas, Secy.

Texas Society of Athletic Team Physicians, Fort Worth, April 9, 1960. Dr. W. Harry Ledbetter, Wichita Falls, Pres.; Dr. Jack Brannon, 2715 Fannin, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists, Fort Worth, April 10, 1960. Dr. Marcel Patterson, Galveston, Pres.; Dr. A. C. Broders, Jr., Scott and White Clinic, Temple, Secy.

Texas Society of Ophthalmology and Otolaryngology, Fort Worth, Dec. 4-5, 1959. Dr. James T. Robison, Austin, Pres.; Dr. Edwin G. Grafton, 4319 Oak Lawn, Dallas, Secy.

Texas Society of Pathologists, Inc., Fort Worth, April, 1960. Dr. Jarrett Williams, Abilene, Pres.; Dr. Sylvia Johns, 414 Navarro St., San Antonio, Secy.

Texas Society of Plastic Surgeons, Fort Worth, April 9, 1960. Dr. Willard Schussler, El Paso, Pres.; Dr. Raymond Brauer, 6615 Travis, Houston, Secy.

Texas Society on Aging, Fort Worth, April 13, 1960. Dr. Ernest W. Keil, Temple, Pres.; Mrs. William B. Ruggles, 3701 Stratford, Dallas, Secy.-Treas.

Texas Surgical Society, Fort Worth, April 3-5, 1960. Dr. Robert Wilson Crosthwait, Waco, Pres.; Dr. G. V. Brindley, Jr., Scott and White Clinic, Temple, Secy.

Texas Traumatic Surgical Society, Fort Worth, April 10, 1960. Dr. W. D. Marrs, Fort Worth, Pres.; Dr. W. E. Crump, 1300 8th St., Wichita Falls, Secy.

Texas Urological Society, Wichita Falls, 1960. Dr. Joseph Mitchell, Dallas, Pres.; Dr. O. C. Berg, 1300 8th St., Wichita Falls, Secy.

District

Third District Society, Lubbock, 1960. Dr. Grady M. Wallace, Lubbock, Pres.; Dr. H. Fred Johnson, 2308 W. Eighth, Amarillo, Secy.

Fourth District Society, San Angelo, May 16, 1959. Dr. W. L. Smith, San Angelo, Pres.; Dr. S. Braswell Locker, 1501 11th St., Brownwood, Secy.

Fifth and Sixth Districts Society, Corpus Christi, July 8-9, 1960. Dr. John W. Chriss, Pres.; Dr. James Gabbard, 1001 Louisiana, Corpus Christi, Secy.

Seventh District Society. Dr. Robert N. Snider, Austin, Pres.; Dr. Richard Lucas, 502 W. 13, Austin, Secy.

Eighth District Society, Corpus Christi, July 8-9, 1960. Dr. M. Warren Hardwick, Angleton, Pres.; Dr. J. L. Coleman, Box 3346, Victoria, Secy.

Tenth District Society, September, 1960. Dr. J. W. McCall, Jr., Beaumont, Pres.; Dr. Irving M. Richman, 3280 Fannin St., Beaumont, Secy.

Twelfth District Society, Marlin, January 12, 1960. Dr. Paul H. Mitchell, Corsicana, Pres.; Dr. J. M. Brown, Torbett Clinic, Marlin, Secy.

Thirteenth District Society, Fort Worth, Fall, 1960. Dr. Frank S. Browne, Wichita Falls, Pres.; Dr. R. D. Moreton, 1217 W. Cannon, Fort Worth, Secy.

Fifteenth District Society. Dr. Charles Wise, Naples, Pres.; Dr. George Bennett, 402 S. Bolivar, Marshall, Secy.

Clinics

International Medical Assembly of Southwest Texas, San Antonio, Jan. 25-27, 1960. Dr. Alvin O. Severance, San Antonio, Pres.; S. E. Cockrell, 202 W. French Place, San Antonio, Exec. Secy.

North Texas-Southern Oklahoma Fall Clinical Conference. Dr. Frank J. Lee, 1300 8th, Wichita Falls, Chm.

Oklahoma City Clinical Society Conference, Oklahoma City, Oct. 24-26, 1960. Dr. Vernon D. Cushing, Oklahoma City, Pres.; Miss Alma F. O'Donnell, 503 Medical Arts Bldg., Oklahoma City 2, Executive Secy.

Postgraduate Medical Assembly of South Texas, Houston, July 18-20, 1960. Dr. C. Alsworth Calhoun, Houston, Pres.; Mrs. W. H. Dahme, 412 Jesse H. Jones Library Bldg., Houston 25, Exec. Secy.

Board Examinations

Texas State Board of Examiners in Basic Sciences. Henry B. Hardt, Ph.D., Fort Worth, Pres.; Mrs. Betty J. Anderson, Chief Clerk, State Office Bldg., 201 E. 14th St.

Texas State Board of Medical Examiners, Fort Worth, June 20-22, 1960. Dr. M. H. Crabb, Fort Worth, Secy.; Mrs. Luanna Reddin, 1714 Medical Arts Bldg., Fort Worth, Assistant Secy.

MEDICOLEGAL NOTES

Texas Has Not Applied "Res Ipsa Loquitur" Doctrine

"Res Ipsa Loquitur" designates a principle of law which is the source of much concern and apprehension to the physicians of this and other states. The term "res ipsa loquitur" means literally "the thing speaks for itself," and when applied by the courts creates a presumption that the defendant was negligent. In a malpractice suit against a physician in a state which recognizes the doctrine of res ipsa loquitur, the patient bringing the suit merely would have to show that the instrumentality causing the injury was in the physician's exclusive control and that the accident or occurrence was one which ordinarily does not happen in the absence of negligence. Once this has been shown, the presumption is raised that the physician has been negligent in his care and treatment of the patient.

It is readily evident that the availability of this doctrine greatly enhances the patient's likelihood of recovery in a malpractice suit, because it results in a physician having to try to show that he was not negligent rather than the patient having to establish what the physician did that caused the alleged injury, and in addition that the acts of the physician were, in fact, negligent. Basically the effect of the application of res ipsa loquitur would be analogous to the position that a person "is guilty until proved innocent."

Numerous states apply this doctrine in malpractice cases, and unquestionably it has resulted in many cases being decided in favor of the plaintiff-patient which previously would have been dismissed by the court.

Because of the danger the application of this doctrine of law holds for the physician should litigation arise, I receive increasing numbers of inquiries as to whether our courts in Texas apply this doctrine in malpractice cases. Consequently, I believe that the physicians of this state would be interested in the stand taken by our courts in regard to 'res ipsa loquitur.'

In Texas, we have had three malpractice cases which reached our appellate courts in which the issue of res ipsa loquitur was presented. The first of these cases, in 1930, was Martin v. Eschelman.* This case dealt with an x-ray burn and the court stated in its opinion the following:

> But it is strenuously insisted that the doctrine, res ipsa loquitur, has no application to cases of this character. *It may be that no inference of negligence can be drawn from the mere fact that the parts necessarily exposed for treatment are burned.* But here we have a situation according to the evidence, where a burn has appeared over a much larger area than that which was being treated. We think that fact is a circumstance which the jury had a right to consider in connection with the other testimony in determining whether or not the appellant was negligent in not using the proper covering to prevent the exposure of the untreated portion of the appellee's neck. It is not contended that such protection was impossible or that the parts not showing evidence of the burn were necessarily exposed to the light of the machine. [Emphasis added.]

While the court in its opinion mentioned the doctrine of res ipsa loquitur, it did not expressly state that it was applying this doctrine to the particular facts in the case. In fact, the court stated the following:

> It may be that no inference of negligence can be drawn from the mere fact that the parts necessarily exposed for treatment are burned . . . .

Actually, it appears that the court felt that regardless of whether the doctrine of res ipsa loquitur might be applicable, there was sufficient evidence before the jury actually to prove negligence on the part of the physician without the application of res ipsa loquitur. Nevertheless, it would have to be said that this first case dealing with the doctrine of res ipsa loquitur in a malpractice suit was inconclusive as to what position our courts ultimately would take.

In 1932, in the case of Taylor v. Suffield,† the courts again were asked to recognize the doctrine of res ipsa loquitur in a malpractice case in Texas. The court in this case held in its opinion the following:

> *The maxim of res ipsa loquitur has no application to this case.* That is, it cannot be inferred from the fact that experts examined the appellee and found, shortly before the trial of this case, that his uvula, palate, and tonsillar pillars, or considerable portions thereof, were gone, that appellant removed these parts in connection with the performance of a tonsillectomy upon appellee fifteen years prior to such examination; because all the experts testified that the absence of these parts could have resulted from numerous diseases during the fifteen-year period in question. The question here is not the establishment of a bad result from a known injury, but the establishment of the injury itself, which, according to the

*33 *SW 2d 827.*
†52 *SW 2d 788.*

opinion of each expert, might have resulted from (a) the operation in question, or (b) congenital defects, or (c) traumatic injury, or (d) disease, causing a sloughing off or atrophy of the parts of appellee's throat in issue. [Emphasis added.]

Although this case would seem to establish that our courts in Texas were not going to apply the doctrine of res ipsa loquitur in a malpractice case, the case which was definitely to establish that this doctrine was not to be applied in Texas reached our courts in 1935 in Barker v. Heaney.‡ A portion of the opinion in this case clearly established the rule of law that the Texas courts would follow in malpractice suits when the issue of res ipsa loquitur was raised. This portion of the opinion is as follows:

> Eight expert witnesses testified that Barker's death was not due to the fact that he was operated upon while intoxicated; while no expert witness testified that his death was due to the fact that he was operated upon while intoxicated. Plaintiff contends that her husband, Cleve Barker, was a strong, healthy man and that if he had not been operated upon he would not have died. This is no doubt true, but a physician is not a warrantor of cures. Many patients probably die from the effect of operations who would have lived for some time but for the operation. However, this fact alone does not establish the fact of malpractice, or that the operation was not skillfully and properly performed. *The rule of res ipsa loquitur does not apply in a malpractice case.* The fact that the operation was not successful does not establish the fact that the doctors were negligent and that such negligence was the proximate cause of the injury or death. In Ewing v. Goode, 78 Fed. 442, 443, Circuit Judge Taft said:
>
> "It is well settled that in such an employment the implied agreement of the physician or surgeon is that no injurious consequences shall result from want of proper skill, care, or diligence on his part in the execution of his employment. If there is no injury caused by lack of skill or care, then there is no breach of the physician's obligation, and there can be no recovery . . . . Mere lack of skill, or negligence, not causing injury gives no right of action and no right to recover even nominal damages . . . . In Hancke v. Hooper, 7 CAR & P. 81, Tindal, C. J., said:
>
> "A surgeon is responsible for an injury done to a patient through the want of proper skill in his apprentice, but, in an action against him, the plaintiff must show that the injury was produced by such want of skill, and it is not to be inferred."
>
> Before the plaintiff can recover, she must show by affirmative evidence—first, that defendant was unskillful or negligent; and second, that his want of skill or care caused injury to the plaintiff. If either element is lacking in her proof, she has presented no case for the consideration of the jury. The naked facts that defendant performed operations upon her eye, and that pain followed, and that subsequently the eye was in such a bad condition that it had to be extracted, established neither the negligence and unskillfulness of the treatment, nor the causal connection between it and the unfortunate event. A physician is not a warrantor of cures. *If the maxim, "res ipsa loquitur," were applicable to a case like this, and a failure to cure were held to be evidence, however slight, of negligence on the part of the physician or surgeon causing the bad result, few would be courageous enough to practice the healing art, for they would have to assume financial liability for nearly all the "ills that flesh is heir to."* [Emphasis added.]

‡*82 SW 2d 417.*

Twenty-four years have now passed since the rendering of this decision, and there has yet to be a case in Texas involving malpractice which reached the appellate courts where the issue of res ipsa loquitur again was urged. Although it is possible that at some future date a litigant will urge the courts to reverse its stand and apply the doctrine of res ipsa loquitur, the mere fact that the decision in the Barker v. Heaney case has gone unchallenged so long will tend further to strengthen its holding and precedence. The recognition of our Texas courts that this doctrine has no basis for application in a malpractice suit unquestionably has been a factor in discouraging many suits lacking in merit from being filed against physicians of this state.

—PHILIP R. OVERTON, LL.B., Austin.

DRUG NOTES

Hypotensive Agent Blocks Peripheral Sympatholytic Nerves

DARENTHIN (Burroughs-Wellcome) is a new hypotensive agent. Although this compound may be considered an adrenergic blocking agent (sympatholytic), it belongs to a new type of sympatholytics. It selectively blocks the peripheral sympathetic nervous system by action on adrenergic nerves, but does not inhibit the effects of circulating epinephrine or norepinephrine.

Although this compound is not considered similar to the classical adrenergic blocking agents (for example, Dibenamine—Smith, Kline and French, and Priscoline—Ciba), from a chemical standpoint, it does possess certain structural features that may be considered to be similar. Darenthin has in its structure a benzyl group which also is present in Dibenamine and Priscoline. Furthermore, Darenthin is a quaternary amine, and it is believed that a quaternized form of Dibenamine is the physiologically reactive form which is formed in vivo after absorption. Although these correlations lie on a rather tenuous basis, they may serve as a possible explanation for the common hypotensive activity exerted by adrenergic agents, as well as possibly to explain why Darenthin selectively acts on the peripheral adrenergic nerves.

NORFLEX (Riker), a brand of orphenadrine, as the citrate has been available for several months. Sometime prior to this, the same company introduced the hydrochloride salt of the same drug as Disipal. The true chemical relationship of the drug is hidden further by the generic name orphenadrine since it disguises its relationship to Benadryl. A more revealing generic name would have been methylphenhydramine since the drug can be thought of as methylated Benadryl (Parke Davis).

In a way, hiding the fact that orphenadrine is closely related to Benadryl helps to segregate the two drugs. This is necessary because orphenadrine has almost no antihistaminic nor local anesthetic activity to speak of and exhibits a much stronger atropine-like action.

Norflex is available in 100 mg. tablets to be given twice daily in the treatment of muscle spasm, strains, sprains, certain conditions of arthritis, low back syndrome, and other similar conditions. Disipal, as an antiparkinsonian

agent, is to be given 50 mg. three times a day. Since each is orphenadrine, Disipal as the hydrochloride and Norflex as the citrate salt, the question naturally arises: why was it necessary to assign a new trade name to a different salt form? Actually the new trade name was requested by the Food and Drug Administration.

Briefly, the citrate form is said to be more slowly released than the shorter acting hydrochloride. The slower release is said also to result in the lack of significant side effects. This then opens up the wider area of application for Norflex.

Disipal, it should be pointed out, has been selected as the agent of choice in the treatment of Parkinsonism by several workers. It is said that parkinsonian patients are generally more tolerant of Disipal's anticholinergic side effects.

Certain of these side effects may be desirous in the treatment of paralysis agitans.

AKINETON (Biperiden—Knoll) is a new synthetic anticholinergic agent that possesses relatively weak visceral anticholinergic activity, but pronounced nicotine-lytic activity. Consequently, it is indicated in the treatment of Parkinson's disease and in certain other spastic disorders not related to parkinsonism. Hence, therapeutically it may be classified with Disipal. Although these two compounds are chemically different, pharmacological data indicates that Akineton has a stronger myospasmolytic action than atropine. Furthermore, it also possesses a stronger nicotinolytic effect than other antiparkinsonian agents. It should be emphasized that Akineton is contraindicated in all forms of epilepsy.

In the management of parkinsonism, the average dose recommended is 6 to 8 mg.; the product is available in tablet form, 2 mg. per tablet. Nevertheless, individual adjustment of dosage is necessary in all instances.

ANALEXIN (phenyramidol—Irwin, Neisler & Co.) is a new synthetic drug referred to as an "analgomylaxant," that is, an agent that is both a general non-narcotic analgesic and an effective muscle relaxant.

Analexin is a new type of therapeutic agent. Since it possesses both analgesic and muscle relaxant properties, it may be considered unique in its physiological effects. The analgesic activity of this new compound is of the order of codeine, and the mechanism of the muscle relaxation (interneuronal blockade) produced by this drug is considered desirable in that such a mechanism can abolish abnormal muscle tone without impairing normal neuromuscular function. Its interneuronal blocking activity was compared with that of other drugs: mephenesin (Tolserol—Squibb), meprobamate (Equanil—Wyeth, Miltown—Wallace), and carisoprodol (Soma—Wallace). This study revealed that Analexin was the most active relaxant.

Furthermore, although the analgesic potency of each tablet of Analexin (200 mg.) is clinically equivalent to that of 1 grain of codeine, Analexin is non-narcotic and nonhabituating. Employment of a single drug that produces these two distinct, but simultaneous, effects has obvious advantages since relief of the total pain experience may be better accomplished by such dual action because the end result of pain is general discomfort or suffering paralleled by muscular tension.

From a chemical standpoint, Analexin also may be considered unique. Chemically, it is not related to and does not resemble any other currently available analgesic or muscle relaxant.

Analexin is indicated for the relief of pain in numerous conditions: dysmenorrhea; abdominal distress; epigastric distress; genitourinary malfunctions; tension headache; gout; toothache. It also is indicated for general relief of musculoskeletal spasm and pain. Analexin is available in two forms: tablets (200 mg.) and Analexin-A.F. (Analexin 100 mg. with aluminum aspirin, 300 mg.).

CYTOXAN (cyclophosphamide—Mead Johnson) is a new cytotoxic agent indicated in the treatment of patients with specific malignant neoplasms.

This new cytotoxic agent may be considered chemically and pharmacologically related to the "nitrogen mustards." Authorities agree that the most significant pharmacological properties of the nitrogen mustards are those which lead to inhibition or interference with fundamental mechanisms concerned with cell growth, mitotic activity, differentiation, and function. Consequently, because of these properties, certain nitrogen mustards are known to exert some antineoplastic activity. If the preceding principles are borne in mind, certain structure-activity relationships become readily obvious. These structure-activity relationships provide a sound basis that may account for the pronounced cytotoxic activity exhibited by Cytoxan.

Like the nitrogen mustards, the cytotoxic action of Cytoxan is believed to be due to its alkylating properties which are usually exhibited by all nitrogen mustards. Although the exact mechanism of action of these compounds has not yet been elucidated, the following postulation has been suggested. Since nitrogen mustards are reactive alkylating agents, it is believed that they react and deactivate certain physiologically essential metabolites such as amino acids.

Although the preceding emphasizes the relationship of Cytoxan to the nitrogen mustards, it should be emphasized that this new nitrogen mustard differs from the common nitrogen mustards in several significant respects. Cytoxan was designed by the chemists, Arnold and Bourseax, in an attempt to accomplish their objective of developing an agent which would possess less toxicity and fewer side reactions than the common nitrogen mustards. These researchers directed their efforts toward the synthesis of a compound that would be relatively inert when in contact with normal tissues, but that would become active within malignant cells.

Since neoplastic cells contain a higher concentration of certain enzymes (phosphoamidases) than normal cells and if a molecule of a cytotoxic agent were cleaved by these enzymes within the cell to release the active form, it might be more toxic to cancer cells than to normal cells. Consequently, on the basis of this idea of "selective toxicity," the efforts of these chemists led to the synthesis of Cytoxan, which appears to act by this mechanism. Although absolute proof is not yet available, it is believed that enzymatic hydrolysis of the cyclic portion of the molecule through cleavage of a nitrogen-phosphorus bond converts the original phosporamide to the biologically active nitrogen mustard.

This brief resume should point to another important phase of research in the field of cancer chemotherapy and may be compared with research in the field of "antimetabolites," which has led to the synthesis of certain active anticancer agents (for example, 5-fluorouracil; see Drug Notes, *Journal*, January, 1960, page 50). On the basis of other biochemical principles different approaches have been utilized as the basis for research. Two distinct phases of cancer chemotherapy have resulted and logically each of these fields has led to entirely different compounds.

Clinical data reveal that Cytoxan is valuable only as a palliative agent in malignant neoplasms, particularly those arising from the reticuloendothelial and hematopoietic systems, and certain so-called solid tumors. The proper use and application of this new drug requires, of course, accurate diagnosis, complete hematologic examination, and a thorough history of the patient especially as related to previous therapy. Those neoplasms that have been reported as "relatively susceptible to Cytoxan" follow: Hodgkin's

disease; certain lymphomas; acute and chronic leukemia; and mycosis fungoides.

Clinicians have used initial intravenous dosages of 100 to 200 mg. per day, irrespective of body weight, until a loading of 2 to 8 Gm. of Cytoxan had been given. Usually maintenance doses of 50 to 200 mg. per day orally were administered then. Cytoxan is available commercially in several dosage forms: parenteral preparations (vials of 100 mg. and 200 mg.) and in tablets (50 mg. each).

ALDACTONE (Spironolactone, G. D. Searle & Co.) is a novel type of diuretic. As a matter of fact Aldactone provides an entirely new approach to the regulation of both edema and ascites.

The diuretic effect of Aldactone is achieved through a mechanism that differs fundamentally from conventional diuretics, such as the organic mercurials and the thiazide diuretics (Chlorothiazide and Hydrochlorothiazide). Aldactone is a synthetic steroid. Hence, it differs from the usual diuretics from a chemical standpoint, as well as from a physiological standpoint.

This new diuretic may be considered to be an effective blocking agent of the sodium-retaining effects of aldosterone, which is a native adrenal cortex hormone. When this adrenal cortex hormone is present in excessive concentrations, it is known to produce conditions that lead to edema due to its sodium retaining properties. In fact, this physiological principle has served as the basis for the design of the steroidal diuretic.

Clinical data reveals that Aldactone is useful in the treatment of edema associated with congestive heart failure, hepatic cirrhosis with ascites, the nephrotic syndrome, and idiopathic edema. It is recommended that Aldactone therapy in an adult be initiated at a daily dosage of 400 ml. and administered in divided doses. This new drug is available in tablet form: 100 mg. each.

—HERBERT SCHWARTZ, M.S. and
JAIME N. DELGADO, M.S., Austin.

Correction: Drug Notes

The description of figure 3 in the Drug Notes article in the January *Journal*, page 51, should read: Formulas showing the chemical similarity of Cotranul (a new anticholinergic agent) to Trasentine (an antispasmodic) and to Suavatil (a tranquilizer).

MEDICAL MEETINGS

New Orleans Medical Assembly Scheduled for March 7-10

The twenty-third annual meeting of the New Orleans Graduate Medical Assembly will be held March 7-10 at the Roosevelt Hotel in New Orleans.

Nineteen guest speakers will participate, and their presentations will be planned for both specialists and general practitioners. The program will include 56 informative discussions, in addition to clinicopathologic conferences, symposiums, medical motion pictures, round-table luncheons, and technical exhibits.

The speakers will include Dr. Leroy D. Vandam, Boston; Dr. Clarence S. Livingood, Detroit; Dr. Henry D. Janowitz, New York; Dr. John G. Walsh, Sacramento, Calif.; Dr. E. Stewart Taylor, Denver; Dr. Charles H. Burnett, Chapel Hill, N. C.; Dr. Donald D. Matson, Boston; Dr. Frank R. Look, Winston-Salem, N. C.; Dr. Frank R. Look, Winston-Salem, N. C.; Dr. Trygve Gunderson, Boston; Dr. Carroll B. Larson, Iowa City; Dr. John J. Conley, New York; Dr. W. A. D. Anderson, Miami; Dr. Franklin H. Top, Iowa City; Dr. Raymond J. Jackman, Rochester, Minn.; Dr. David G. Pugh, Rochester, Minn.; Dr. Bentley P. Colsock, Boston; Dr. Robert M. Zollinger, Columbus, Ohio; and Dr. George G. Prather, Brookline, Mass.

Following the meeting in New Orleans, arrangements have been made for a clinical cruise to the West Indies, leaving from Port Everglades, Fla., on Saturday, March 12. The itinerary includes visits to Puerto Rico, Virgin Islands, Martinique, Barbados, Trinidad, Curacao, and Haiti, returning to Florida March 25.

Details of the New Orleans meeting and the cruise are available at the office of the Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12. The registration fee is $20 for the assembly.

Dallas Clinical Society Sets Meeting March 21-23

The Dallas Southern Clinical Society will sponsor its twenty-ninth annual Spring Clinical Conference, March 21-23, in Dallas.

Featured at the conference will be general assemblies, round-table luncheons, postgraduate lectures, panel discussions, clinical pathological conferences, technical exhibits, and a dinner dance.

Among the guest speakers at the meeting will be Dr. Douglas N. Buchanan, Chicago; Dr. George Crile, Jr., Cleveland, Ohio; Dr. James E. Eckenhoff, Philadelphia; Dr. Aram Glorig, Jr., Los Angeles; Dr. S. Leon Israel, Philadelphia; Dr. Daniel G. Morton, Los Angeles; Dr. Edward L. Compere, Chicago; Dr. Arthur G. Devoe, New York; Dr. Herman Elwyn, New York; Dr. Milton Helpern, New York; Dr. Charles G. Johnston, Detroit; Dr. Robert E. Votaw, St. Louis; Dr. Robert E. Cooke, Baltimore; Dr. William Dock, Brooklyn; Dr. Benjamin Felson, Cincinnati; Dr. Frank Hinman, Jr., San Francisco; Dr. Lawrence S. Kubie, New York; and Dr. William M. M. Kirby, Seattle.

Advance registration forms and requests for accommodation can be obtained by writing to Dallas Southern Clinical Society, Medical Arts Building, Dallas 1. Registration fee is $25.

Diseases in Nature Transmissible to Man Will Be Topic of Austin Conference

The tenth annual Southwestern Conference on Diseases in Nature Transmissible to Man will be held March 17-19 at the State Department of Health building in Austin. Everyone interested in the zoonoses is invited to attend and participate in the discussions of diseases of importance to the health of man and animals such as rabies, the arbor viruses, ornithosis, and Q fever.

Sponsors of the conference include the Agricultural and Mechanical College of Texas, the University of Texas Medical Branch, the University of Texas Southwestern Medical School, Baylor University School of Medicine, and the Texas State Department of Health.

Those desiring to present papers or obtain further information should write the conference chairman, J. V. Irons, Sc.D., Director of Laboratories, State Department of Health, Austin.

Texas Groups to Sponsor Postgraduate Assembly at Prairie View

The twenty-fourth annual Postgraduate Medical Assembly at Prairie View Agricultural and Mechanical College will be sponsored March 7-9 at Prairie View by the Texas Medical Association, Texas State Department of Health, Lone Star State Medical Association, Texas Tuberculosis Association, and the Prairie View Agricultural and Mechanical College.

Speakers and their specialties will be Dr. W. Roderick Brown, Pittsburgh, tuberculosis; Dr. E. Perry Crump, Nashville, Tenn., pediatrics; Dr. Joseph G. Gathings, Washington, D. C., internal medicine; Dr. John B. Johnson, Washington, D. C., internal medicine; Dr. James A. Greene, Galveston, internal medicine; Dr. Clemmie Johnson, Houston, obstetrics; Dr. Charles W. Klanke, Houston, psychiatry; Dr. Carolyn J. Long, Austin, pediatrics; Dr. Catherine J. E. Roett, Houston, pediatrics; Dr. Samuel Topperman, Tyler, tuberculosis; and Dr. Fenwick L. Watts, Port Arthur, dermatology.

Houston Neurology Society Will Sponsor March Symposium

The eighth annual symposium of the Houston Neurological Society will be held March 10-12 at the Texas Medical Center in Houston. The program will consist of two sections, the first devoted to "Prenatal and Perinatal Factors in Neurological Disease" and the second concerned with "Pathogenesis and Treatment of Hydrocephalus."

Among those who will participate in the symposium are Dr. Samuel Hicks, Boston; Dr. Russell Blattner, Houston; Dr. Marjorie Nelson, San Francisco; Dr. William Windle, Bethesda, Md.; Dr. George Anderson, Providence, R. I.; Dr. Donald Matson, Boston; and Dr. Robert Pudenz, Pasadena.

All interested clinicians and research workers are invited to attend and to participate in the discussions. Registration fee is $10. Those desiring further information may write Dr. William S. Fields, Houston Neurological Society, 1200 M. D. Anderson Boulevard, Houston 25.

Eye, Ear, and Throat Meet in Virginia

The Gill Memorial Eye, Ear, and Throat Hospital announces to the profession its thirty-third annual Spring Congress in Ophthalmology and Otolaryngology, April 4-April 9, in Roanoke, Va.

Guest speakers will be Dr. Leonard Apt, Philadelphia; Dr. William F. Berry, Jr., Durham, N. C.; Dr. Francis B. Catlin, Baltimore; Dr. James E. Crushore, Detroit; Dr. John F. Daly, New York; Dr. Edward A. Dunlap, New York; Dr. John A. Dyer, Rochester, Minn.; Dr. Ben S. Fine, Washington, D. C.; Dr. John R. Heller, Bethesda, Md.; Dr. John W. Henderson, Ann Arbor, Mich.; Dr. William H. Kaufman, Roanoke, Va.; Dr. Alexander McCausland, Roanoke, Va.; Dr. P. Robb McDonald, Philadelphia; Dr. Franklin B. McKechnie, Richmond, Va.; Dr. Alton Oshsner, New Orleans; Dr. Peter N. Pastore, Richmond, Va.; Dr. George E. Shambaugh, Jr., Chicago; and Dr. Harvey E. Thorpe, Pittsburgh, Pa.

For further information, those interested may write the superintendent of the hospital, P. O. Box 1789, Roanoke, Va.

Fort Worth Symposium

Three guest speakers will highlight the program of the seventh annual Heart Symposium of the Fort Worth Heart Association, February 21, in Fort Worth, under the auspices of the Postgraduate Division, Southwestern Medical School of the University of Texas in Dallas and the Texas Academy of General Practice.

The guests will be Dr. John K. Lewis, San Francisco, professor of medicine, Stanford University School of Medicine, whose subject will be "Arrhythmias"; Dr. George C. Griffith, Los Angeles, professor of clinical cardiology, University of Southern California, "Congestive Failure"; and Dr. Will Camp Sealy, Durham, N. C., professor of thoracic surgery, Duke Hospital, "Hypothermia."

A luncheon and open discussion will be held at noon, February 21. Six hours of category 2 credit will be given members of the Texas Academy of General Practice who attend the symposium.

U. S.-Mexico Border Meeting To Be Held April 4-8

The United States-Mexico Border Public Health Association will hold its annual meeting in Hermosillo, Sonora, April 4-8. All interested physicians are invited to attend.

Among the features will be the joint meeting of the maternal and child health and the nursing sections, which will include a discussion of vision and hearing impairments in school children. The tuberculosis section is planning a meeting dealing with the evaluation of the magnitude and characteristics of the tuberculosis program in the border area and a study of the new drug therapies in the public health programs for control of this disease.

For further information, those interested may write Dr. Jorge Roman, 501 United States Court House, El Paso.

Nuclear Medicine Meeting Set For San Antonio March 26-27

Lectures on radiation effects and radiation fall-out will be high lights of the scientific program when the Southwestern Society of Nuclear Medicine holds its fifth annual meeting in San Antonio March 26-27.

Convention headquarters will be the Menger Hotel. The Saturday night annual banquet will capitalize on the Spanish atmosphere and picturesque view of the San Antonio River.

Doctors and related medical personnel who would like to attend may write for additional information to Dr. J. R. Maxfield, Jr., secretary, 2711 Oak Lawn, Dallas.

Texas Hospital Pharmacy Seminar

The twelfth annual Texas Hospital Pharmacy Seminar will be April 8-10 in Austin.

Among the panel of experts comprising the program will be Vernon Trygstad, president, American Society of Hospital Pharmacists; D. Samuel Hopper, professor of public health at the University of Indiana; and Mr. and Mrs. Don E. Francka, University Hospital, Ann Arbor, Mich.

Venereal Symposium Set

The eleventh annual Symposium on Recent Advances in the Study of Venereal Diseases will be held April 7-8 in Chicago. All physicians and workers in allied fields who are interested in the venereal diseases are welcome to attend.

This symposium, sponsored jointly by the American Venereal Disease Association and the Public Health Service, will follow a Venereal Disease Seminar for public health personnel which begins April 4.

Further information concerning the symposium can be obtained by writing the United States Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center, 50 Seventh Street, N.E., Atlanta, Ga.

Private Clinics and Hospitals Association

Dr. Vance Terrell of Stephenville was elected president of the Private Clinics and Hospitals Association of Texas at the organization's annual meeting, November 29, in Dallas. B. J. Warren of Galena Park became secretary.

The next meeting of the association will be held in Dallas, December, 1960.

Second Texas District, College of Surgeons

Second Texas District of the American College of Surgeons will hold its annual meeting in Corpus Christi, March 5. An entertainment function has been planned for the evening of March 4. Participating on the scientific program will be a member of the Brooke Army Medical Center who will speak on "Burns."

Psychosomatic Dentistry and Medicine Society

The annual meeting of the American Society of Psychosomatic Dentistry and Medicine will be held March 11-13 in Washington, D. C. Lectures and round-table discussions will be given by authorities in the fields of semantics, linguistics, psychosomatics, and hypnosis. All physicians are invited to attend. For a detailed program, those interested may write Dr. Jesse Caden, chairman of the program committee, 5213 Connecticut Avenue, Washington 15, D.C.

EDUCATION

Postgraduate Courses

Gastroenterology, Houston, February 25-27.—The University of Texas Postgraduate School of Medicine is presenting a program on gastroenterology, February 25-27, at the Texas Medical Center in Houston. Among the guest speakers will be Dr. Lester R. Dragstedt, research professor of surgery, University of Florida, Gainesville; Dr. G. Gordon McHardy, clinical associate professor of medicine, Louisiana State University School of Medicine, New Orleans; Col. Eddy D. Palmer, chief of gastroenterology, Brooke Army Hospital, Fort Sam Houston; Dr. Marcel Patterson, associate professor of medicine, University of Texas Medical Branch, Galveston; and Dr. N. C. Hightower, Jr., lecturer in medicine-physiology, University of Texas Postgraduate School of Medicine, Temple.

Subject matter will deal with diseases of the esophagus, stomach, small intestine, pancreas, and liver. Emphasis on diagnosis and therapeutic approaches medically and surgically will be discussed. For further information, those interested may write to the Office of the Dean, University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25.

Anesthesiology, Houston, March 9-11.—The University of Texas Postgraduate School of Medicine will sponsor the fifth annual course in anesthesiology, March 9-11, in Houston. The course is designed to review theory and practice of commonly used anesthetic techniques and will include discussions of some of the newer drugs. Those interested in further information may write the University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Houston 25.

Electrocardiography, New York, March 14-19.—A course in electrocardiography to be sponsored by New York University Post-Graduate Medical School will approach the problem from the fundamental concept of the electrophysiology of the normal heart and the changes resulting from cardiac pathology. Audiovisual and electronic equipment will be used for demonstration. For further information, those interested may write the Office of the Associate Dean, New York University Post-Graduate Medical School, 550 First Avenue, New York 16.

Diseases of the Chest, Philadelphia, March 14-18.—The Council on Postgraduate Medical Education of the American College of Chest Physicians will present the thirteenth annual postgraduate course on diseases of the chest at the Sheraton Hotel, Philadelphia, March 14-18. The most recent advances in the diagnosis and treatment of heart and lung diseases, medical and surgical aspects, will be presented. Tuition for the 5 day course will be $100, including round-table luncheon discussions. Further information may be obtained by writing the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11.

Fractures and Other Trauma, Chicago, April 27-30.—The fourth postgraduate course on fractures and other trauma sponsored by the Chicago Committee on Trauma of the American College of Surgeons will be held April 27-April 30 at the John B. Murphy Memorial Auditorium in Chicago. Teachers prominent in the field of trauma from the five Chicago medical schools and chiefs of services from leading Chicago hospitals will lead discussions on all phases of trauma.

Lectures will be presented on management of open fractures, injuries to the hand, femoral neck and intertrochanteric fractures, roentgenological aspects of trauma to the spine, peripheral nerve injuries, plastic surgery of the face and extremities, and surgical management of vascular injuries. Registration fee is $50. Inquiries may be addressed to Dr. John J. Fahey, 50 East Erie Street, Chicago 11.

University of Texas Medical Branch

The third McLaughlin Lecture sponsored by the James W. McLaughlin Fellowship Fund of the University of Texas Medical Branch was given by Dr. C. Chester Stock, associate director, Sloan-Kettering Institute for Cancer Research, New York, in Galveston recently. He spoke on "Observations in Experimental Cancer Chemotherapy."

Dr. Truman G. Blocker, Jr., professor of plastic and maxillo-facial surgery at the Medical Branch, attended a meeting of the Advisory Council to the Surgeon General in Washington, D. C., in November, as well as a meeting of the National Research Council on Trauma.

The first Daniel W. Kempner Fund Lecture for 1959-

1960 was given by Professor U. S. von Euler, of the Karolinska Institute, Stockholm, December 2 at the Medical Branch. While visiting the Medical Branch, Dr. von Euler gave several lectures including a Physiology Biochemistry Seminar and a talk sponsored by the Galveston Chapter of Sigma Xi.

Dr. Titus H. Harris has been honored by his former residents by the founding of the Titus Harris Psychiatric Club. Twenty of these former residents met recently in Galveston to form the club and elected the following officers: Dr. Abe Hauser, Houston, president; Dr. Martin L. Towler, Galveston, vice-president; Dr. E. I. Bruce, Galveston, secretary-treasurer; and Dr. Edgar Ezell, Fort Worth, counselor. Dr. Harris inaugurated the resident training program at the Medical Branch in 1933, effectively using both interns and medical students in his program of private practice in general hospitals.

Dr. Charles W. Daeschner, Jr., of Houston, currently associate professor of pediatrics at Baylor University College of Medicine, has been appointed professor of pediatrics and chairman of the pediatrics department of the University of Texas Medical Branch, Galveston.

A day-long Medical Student Research Forum will be held March 7 at the Hotel Galvez. The forum is designed as a scientific meeting to give students who have engaged in research at the Medical Branch an opportunity to discuss and report their work. Sponsors of the forum include the Student American Medical Association, Sigma Xi science fraternity, the Faculty Research Committee, and the McLaughlin Fund.

Essay Awards Sponsored By Physical Medicine Congress

The seventh essay award, a cash award of $200, and the third Bernard M. Baruch essay award, a cash award of $100, will be sponsored again this year by the American Congress of Physical Medicine and Rehabilitation.

Contributions for the essay award will be accepted from interns, residents, graduate students in the preclinical sciences, and graduate students in physical medicine and rehabilitation. However, only medical students are eligible to enter the Bernard M. Baruch essay award contest. Manuscripts for the awards must be in the office of the American Congress of Physical Medicine and Rehabilitation by March 1.

The contributions may be on any subject of interest or pertaining to the field of physical medicine and rehabilitation. They must not have been previously published.

For further information, those interested may write the Office of the American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2.

University of Texas Caribbean Cruise

The annual University of Texas Caribbean Medical Cruise, sponsored by the University of Texas Postgraduate School of Medicine, May 6-14, will have a slight change in the original itinerary due to the political situation in Cuba. The cruise will include New Orleans, Nassau, Cape Haitien, Port au Prince, Montego Bay, and Grand Cayman Island.

Physicians desiring further information may write the Harvey Travel Bureau, 2005 West Gray Avenue, River Oaks Center, Houston 19.

Devereux Foundation Announces New School in Victoria

The Devereux Foundation, which operates treatment centers for emotionally disturbed and retarded children in Pennsylvania, Maine, and California, has announced the opening of its newest school in Victoria.

The Victoria program will incorporate the principles of multidisciplined therapeutic education. The school is temporarily located at Foster Air Force Base. A new building will be constructed next year. Children are grouped homogeneously with respect to chronological age, intellectual potential, and emotional maturity.

Those interested are invited to visit the school at 3808 North Navarro Street, Victoria. Inquiries may be directed to the Registrar, Devereux Schools, Victoria.

School Presents Tumor Authority

Dr. Manuel Lederman, director of the Radiotherapy Section at the Royal Marsden Hospital in London and an internationally known author of many papers on head and neck carcinomas, will present three seminars, March 9-10, in Houston. The subjects of the seminars will be "Tumors of the Nasopharynx," "Tumors of the Oropharynx," and "Tumors of the Laryngopharynx." Members of the staff of the University of Texas M. D. Anderson Hospital and Tumor Institute will supplement Dr. Lederman's talks with presentations based on the clinical experience with tumors of the head and neck at the hospital.

For further information concerning the seminars, those interested may write the Office of the Dean, the University of Texas Postgraduate School of Medicine, Texas Medical Center, Houston 25.

OF GENERAL INTEREST

Personals

Dr. Denton A. Cooley of Houston will be a guest lecturer of the Southwestern Surgical Congress in New Orleans, March 21-24.

Dr. Bruce Cameron, Houston, is editor and publisher of *Orthopedics Magazine,* which is sponsoring, and will operate a seagoing ship that will bring help to crippled children all over the world. The vessel was donated by Dr. P. Williamson, Houston, and is being fitted out in the Galveston Yacht Basin to be launched next spring.

Dr. Henry R. Hoskins of San Antonio was elected second vice-president of the Southern Chapter of the American College of Chest Physicians, at the chapter's meeting held in Atlanta, Ga., November 15-16.

Appointments to the new Hospital Licensing Advisory Council by Governor Price Daniel, created by the recent Texas Hospital Licensing Law enacted by the Legislature, include *Dr. Van Goodall* of Clifton; *Dr. Richard L. Stratton* of Cuero; and *Dr. Edwin E. Connor* of Houston.

Other appointments of Governor Daniel include those of *Dr. Hampton C. Robinson* of Houston and *Dr. Vance Terrell* of Stephenville to the State Board of Health.

Dr. Ione Huntington was guest editor of the November issue of the American Medical Women's *Journal* which was devoted to and edited by the Alamo Chapter of the Association composed of women doctors in the Bexar County Medical Society.

Dr. and Mrs. Francisco E. Baca are the parents of a girl, born November 23, 1959, in El Paso.

Dr. Enid Gilbert and *Dr. Dan M. Queen* of Austin were elected to fellowship in the American Academy of Clinical Pathology instead of Dr. Joe T. Gilbert and Dr. Charles R. Queen of Austin as was printed in the personals section of the January *Journal*, page 56.

Mrs. L. K. Ory, wife of a Comanche physician, died January 13 of heart disease.

Texans participating on the program of the seventy-first annual meeting of the Mid-South Medical Assembly, held February 9-12 in Memphis, Tenn., were *Dr. John A. Wall, Jr.*, Houston; *Col. Paul A. Campbell*, Brooks Air Force Base; and *Dr. William F. Miller*, Dallas.

Dr. Henry Hoskins of San Antonio was elected second vice-president of the Southern Chapter of the American College of Chest Physicians, at its annual meeting held in Atlanta, Ga., November 15.

Dr. J. C. George, Brownsville, was elected mayor of Brownsville recently.

Dr. Erwin O. Strassmann of Houston was made honorary chairman of the Pan American Conference on Infertility at the International Fertility Association, January 10, at Miami Beach, Fla.

The wife of *Dr. T. Roger Humphrey* of Wichita Falls, Sarah Ruth Humphrey, died December 17 in Wichita Falls.

Great Talent Makes Great Doctors, Veteran Texas Physician Believes

"What makes a good doctor? Do you think I can really be one?"

These are questions often asked of distinguished older physicians by students and young men and women just entering the profession.

One of these senior physicians, Dr. John Potts of Fort Worth, provided some interesting answers when he addressed the Tarrant County Medical Society at its inaugural banquet recently.

Talent, he said, is the most important thing.

"Getting medical students with a lot of talent is largely a matter of luck, for money alone often determines where a student will go to school," Dr. Potts pointed out, "but keeping out the misfits should be a matter of intent or design (by the schools). The fine arts people learned centuries ago that one cannot make a musician, a painter, or an architect out of a young person who has no real talent for that particular art. This is just as true in medicine although not so easily recognized at the right time.

"What, besides talent, and a lot of it, enabled Ephraim McDowell to do the first ovarial tumor operation in the world? He probably never saw the inside of a medical school more than a year, if that long. The two poorest medical schools in America today are better equipped to teach medical students, according to our American standards, than was the University of Edinburgh when James McKenzie was a student there or than was McGill when William Osler was its student . . ."

The quiz-kid type of mind does not necessarily guarantee that its owner will make a good physician, Dr. Potts believes, citing instead a "talent for medicine" and the ability to solve problems.

Himself a long-time specialist in diseases of the chest, this veteran physician feels that the doctor who is far below average during the current half-century is in that position because his talent is far below average.

"If a doctor is far *above* average, 75 per cent of it is due to his talent and not to the bricks, mortar, and gadgets in his medical school. The other 25 per cent will be due to good teaching. Again, not to bricks, mortar, and gadgets!"

Dr. Potts advises students and interns to take up the particular medical work they have a talent for and not to be controlled by the desire to make money, to shine socially, or for any other reason.

"A doctor who has a marked talent for his work enjoys it, and he is more interested in giving than in getting."

Assuming that a doctor has true medical talent, says Dr. Potts, he must complement it with other qualities: integrity, "fine sensibilities," and self-discipline.

"I used to tell interns that in their diagnostic work and treatment of a patient they should do the necessary things, no more and no less—and do them in an intelligent, skillful way."

It is the gifted physician with marked talent, working intelligently and honestly in the field he loves, who is the profession's greatest safeguard against socialized medicine, Dr. Potts concludes.

"We should tell students and interns early, tell them often, and tell them convincingly, that medicine is—and must remain—a learned profession, not a trade and not a racket."

Red Cross Campaign in March

"Good things happen when you give," is the theme of the 1960 American Red Cross campaign.

Through membership contributions during the Red Cross campaign each March or during its local federated fund drive each fall, the Red Cross helps to restore the lives of disaster victims; to safety-proof their homes and communities through first aid, water safety, and home nursing training; to provide blood for the sick and injured; to alleviate the personal and family problems of servicemen, veterans, and their dependents, and to prepare their children, through Junior Red Cross, to become this nation's responsible leaders of tomorrow.

Last year the Red Cross had a total of 44,700,000 members and 2,000,000 volunteer workers. Financial assistance provided by loans and grants by the Red Cross totaled $11,330,000.

Board of Examiners in Basic Sciences Exam

The next examination of the Texas State Board of Examiners in the Basic Sciences has been set for April 8-9 in Austin, Galveston, and Houston. Details as to the time and place may be obtained by writing to the Executive Secretary, Texas State Board of Examiners in the Basic Sciences, 201 East Fourteenth, Austin.

Applications for the April examinations will not be accepted after March 28, and all necessary information and documents required by the board of examinees must be completed and in the applicant's file by that date.

The average family had 12 prescriptions filled last year, according to Ketchum & Co. Inc. However, the druggist has to keep in mind an amazing number of facts since he has more than 172,000 ingredients from which to draw. Sometimes he must measure out a thousandth of an ounce. Approximately 90 per cent of the prescriptions he fills call for items that did not exist a generation ago.

Stamp Honors McDowell, Father of Abdominal Surgery

The one hundred fiftieth anniversary of the removal of a 22½ pound ovarian cyst from Jane Crawford Todd by Dr. Ephraim McDowell in Danville, Ky., was December 25, 1959. This event was commemorated by a 4 cent maroon postage stamp issued for sale December 3, 1959. The picture for the stamp was engraved from a contemporary portrait in the possession of Mrs. William M. Irvine of Richmond, Ky., who is McDowell's granddaughter.

The removal of this ovarian tumor is generally regarded as the first successful, scientific abdominal operation.

The first patient, Jane Todd Crawford, was 45 years of age at the time of the operation, and she lived 33 years after the procedure.

Although McDowell performed his first successful ovarian operation December 25, 1809, he waited 8 years until he had twice duplicated the feat before reporting his cases (in the *Eclectic Repertory*, Philadelphia, 1817, vol. 7). In describing the first operation in a letter to a medical student he modestly stated:

> I was sent for in 1809 to deliver a Mrs. Crawford near Greentown of twins; as the two attending physicians supposed. Upon examination per vaginam I soon ascertained that she was not pregnant but had a large tumor in the abdomen which moved easily from side to side. I told the lady I could do her no good and candidly stated to her her deplorable situation; informed her that John Bell, Hunter, Hey and A. Wood, four of the first and most eminent Surgeons in England and Scotland, uniformly declared in their lectures that such was the danger of Peritoneal Inflammation, that opening the abdomen to extract the tumor was inevitable death. But notwithstanding this if she thought herself prepared to die, I would take the lump from her if she could come to Danville. She came in a few days after my return home and in six days opened her side and extracted one of the ovaria which from its disease and enlarged state weighed upwards of twenty pounds—she was perfectly well in 25 days.

Considered in the light of present day surgery, the following features of the operation bear emphasis, according to Schachner:

1. It was performed without the aid of anesthetics, antisepsis, trained help, or any operative accessories except the simplest domestic utensils.

2. The incision was made on the left side and 9 inches in length, parallel to and 3 inches from the "musculas rectus abdominus," presumably over the most prominent part of the tumor.

3. The tumor was freely movable, with a pedicle of sufficient length to enable ligation before the evacuation of its contents or the delivery of the sac.

4. After opening the abdomen the successive steps of the operation were (a) ligation of the fallopian tube and pedicle near the uterus; (b) evacuation of the contents, which is described as a "dirty gelatinous-looking substance"; (c) extraction of the solid portion; (d) replacing the intestines that escaped with the opening of the abdomen and remained exposed until the removal of the solid portion; (e) draining the peritoneal cavity by turning the patient on her side to allow the escape of blood; (f) closure of the abdomen with interrupted sutures, allowing the ligature of the pedicle to pass out at the lower extremity of the wound.

5. Time of the operation was "about twenty-five minutes."

6. The tumor was partly cystic and partly solid, the cystic element weighing 15 pounds and the solid element weighing 7½ pounds, a total of 22½ pounds.

7. In 5 days McDowell "found her engaged in making up her bed and in twenty-five days she returned home."

Her grandson, James Crawford Brown, informs us that during the operation Jane occupied herself by repeating the Psalms.

The important fact that McDowell was a thinking nonconformist is what made him the "father of abdominal surgery." He had the good fortune in living on the frontier of civilization, in an unusually free environment, and amid self-reliant and courageous people who had the strength of their convictions. It was these circumstances, more than anything else, that made it possible for him to have the honor of being the first ovariotomist. Had he lived under the overpowering shadow of a famous university, it is safe to say that he would never have achieved this distinction.

Although McDowell had sent to Bell a report of his 3 cases, all of which were successful, and this report had fallen into the hands of Lizars, owing to Bell's absence, it failed to move him to action. When Lizars received McDowell's report, 7 years had elapsed since the first ovariotomy, and Lizars allowed 7 more to pass before he accorded it any real recognition. This is the basis for the belief that the report of McDowell made no more impression upon Lizars than it made upon our own Phillip Syng Physick.

As early as 1874, the Kentucky State Medical Association inaugurated a movement to honor McDowell, which resulted in the erection of a monument. The McDowell monument was unveiled on May 14, 1879, at which time Dr. Samuel D. Gross, historian of Kentucky medicine and world renowned Philadelphia surgeon, delivered the unveiling address. The monument still stands. Attempts have been made to establish the McDowell home in Danville as a museum.

It is entirely fitting that national recognition at this time be made of this courageous, free thinking, self-reliant, American country practitioner. Upon his monument in Danville, Ky., is the appropriate inscription, "Honor to whom Honor is due."

References

1. Gross, S. D.: Memorial Oration in Honor of Ephraim McDowell, "The Father of Ovariotomy," 1879.
2. McDowell, E.: Three Cases of Extirpation of Diseased Ovaria, Eclectic Repertory, and Analytical Review, Medical and Philosophical, Philadelphia, 1817, vol. 7.
3. Schachner, A.: Ephraim McDowell, Father of Ovariotomy and Founder of Abdominal Surgery, Philadelphia, J. B. Lippincott Company, 1921.

—William M. Crawford, M.D., Fort Worth.

Gifts to the Library

Dr. Josephine Dunlop, Austin, 12 journals.
Sister M. Emery, Austin, 217 journals.
Dr. M. A. Estep, Lufkin, 1,000 journals.
Dr. Joe Thorne Gilbert, Austin, 8 journals.

Dr. C. W. Goff, Hartford, Conn., 1 book (set of two).
Dr. Fred P. Helm, Austin, 18 journals.
Dr. Maurice Jacobs, Austin, 66 journals.
Dr. H. J. Kaplan, Bay City, 8 books.
Dr. Sam N. Key, Jr., Austin, 25 journals.
Drs. Carey and Georgia F. Legett, Austin, 130 journals, 8 reprints, and 2 books.
Dr. Morris Polsky, Austin, 39 journals.
Dr. Nelson L. Schiller, Austin, 20 reprints, 1 picture, 104 journals.
Squibb Institute for Medical Research, 1 book, anniversary volume.
Dr. Milton Turner, Austin, 36 journals, 48 reprints.

★ Books

Books Newly Acquired

Allen, James H., Ed.: *Strabismus Ophthalmic Symposium II,* St. Louis, C. V. Mosby, 1958.

Anderson, Miles H., and others: *Prosthetic Principles Above Knee Amputations,* Springfield, Ill., Charles C Thomas, 1959.

Burnet, Sir Macfarlane: *Clonal Selection Theory of Acquired Immunity,* Nashville, Tenn., Vanderbilt University Press, 1959.

Ciba Limited: *The Story of Chemical Industry in Basle,* Basle, Switzerland, Urs Graf Publishers Olten and Lausanne, 1959.

Dale, W. Andrew: *Autogenous Vein Grafts,* Springfield, Ill., Charles C Thomas, 1959.

Gale, E. F.: *Synthesis and Organization in the Bacterial Cell,* New York, John Wiley, 1959.

Gilbert, William: *De Magnete,* New York, Dover Publications, 1958.

Goldberger, Emanuel: *Primer of Water, Electrolyte and Acid-Base Syndromes,* Philadelphia, Lea and Febiger, 1959.

Gordon, Benjamin Lee: *Medieval and Renaissance Medicine,* New York, Philosophical Library, 1959.

Kevorkian, Jack: *Story of Dissection,* New York, Philosophical Library, 1959.

King, Arthur: *Cigarette Habit,* Garden City, N. Y., Doubleday, 1959.

Love, Brig. Gen. Albert G., and Hamilton, Col. Eugene L.: *Tabulating Equipment and Army Medical Statistics,* Washington, D. C., Office of Surgeon General, Department of Army, 1958.

Ochsner, Alton, and DeBakey, Michael E., Ed.: *Christopher's Minor Surgery,* ed. 8, Philadelphia, W. B. Saunders, 1959.

Pollack, Robert: *Treatment of Breast Tumors,* Philadelphia, Lea and Febiger, 1958.

Shaw, Robert R., and Paulson, Donald L.: *Treatment of Bronchial Neoplasms,* Springfield, Ill., Charles C Thomas, 1959.

Singer, Charles: *From Magic to Science,* New York, Dover Publications, Inc., 1959.

Smith, Edward B., and others: *Principles of Human Pathology,* New York, Oxford University Press, 1959.

Sofoloff, Boris: *Doctor Strand,* New York, Vantage Press, 1959.

E. R. Squibb and Sons: *Centennial Lectures Commemorating the One Hundredth Anniversary of E. R. Squibb and Sons,* New York, G. P. Putman's Sons, 1959.

Theodore, Frederick H., and Schlossman, Abraham: *Ocular Allergy,* Baltimore, Williams and Wilkins, 1958.

Transactions of the Association of American Physicians, vol. 72, 1959.

University of Texas M. D. Anderson Hospital and Tumor Clinic: *Genetics and Cancer,* Austin, University of Texas Press, 1959.

Year Book of Pediatrics, 1959-60: Chicago, Year Book Publishers, 1959.

Year Book of Surgery, 1959-60: Chicago, Year Book Publishers, 1959.

Book Notes

The Management of Fractures And Dislocations; An Atlas

ANTHONY F. DEPALMA, M.D., Professor of Orthopedic Surgery, Jefferson Medical College. Vol. I and II. 960 and 469 pages. $35 per set of two volumes. Philadelphia and London, W. B. Saunders Company, 1959.

This book contains almost 2,000 drawings, each followed by a brief description and discussion. It would be of great worth in the admitting department of a hospital. The book is easy to read and understand, and the drawings are well done.

Preventive Medicine

Edited by HERMAN E. HILLEBOE, M.D., Commissioner of Health, State of New York, Department of Health, Albany, and GRANVILLE W. LARIMORE, M.D., Deputy Commissioner of Health, State of New York, Department of Health, Albany. 731 pages. $12.50. Philadelphia and London, W. B. Saunders Company, 1959.

This is a concise, but comprehensive presentation of the principles of prevention in the occurrence and progression of disease. Each area of information is presented in an easily read and interesting manner by an authority in that particular field. The book should serve admirably as a text for the student and a reference work for the physician in practice.

—L. R. Byrd, Jr., M.D., Port Arthur.

★ Texas Medical Association

They Said This, On January 16

Many said it was the best program ever held in conjunction with the Executive Board meetings. "It" was the joint program for county medical society officials and orientees sponsored in Austin by the Texas Medical Association January 16. Members of Association councils and committees in town for meetings of their own, and other physicians and members of the Woman's Auxiliary plus a number of visitors swelled the registration for the week end to 430.

In addition to the six speakers heard by both the

county officials and the orientees, a panel of four speakers presented their ideas on understanding health care costs to the county group, and eight speakers told orientees items about medical organizations, ethics, malpractice, and socio-economic matters of special significance to them as new or transfer members of the Texas Medical Association.

Luncheon courtesy of the Association, a hospitality hour sponsored by the J. A. Majors Company, a motion picture describing the Freedom in Action movement, and an opportunity for visiting over a cup of coffee and seeing parts of the headquarters building new to them completed the day for most visitors.

Several doctors examine the book display of J. A. Majors Company at the Conference for County Medical Society Officials. The company sponsored a hospitality hour that evening.

High lights of the talks might be summarized as follows:

Yeager: Unite for Strength

Dr. F. W. Yeager, Corpus Christi, President of Texas Medical Association, "1960—A Year of Great Responsibility":

This is an important year for county society officers, for much of the success of the societies will depend on them. Committee appointments are important as these determine the alertness of the societies. Delegates from the county societies should be chosen for their ability, and items to be considered by the House of Delegates should be discussed in advance so that delegates will know the feelings of their societies.

The public needs to be told of the importance to them of socialized medicine, for if medicine is socialized, other forms of socialism can but follow.

The medical profession should never underestimate the enemy that attacks it. Points of such attack now are the demand for increased medical benefits for veterans without service connected disabilities, efforts to increase the scope of medical care for the aged, attempts to make medicine set maximum fees, pictures of doctors as greedy, and pictures of doctors as contributing little to the community.

Weak points for the profession to overcome are a lack of sufficient qualified students in medical schools, a decrease in the number of family doctors, an apathy in attendance at medical meetings and precinct conventions, a failure to publicize grievance committees, and improper release of medical news to the public.

What should be done? The medical profession must unite and make the local, district, and state medical associations the medical power in their areas. Physicians should attend their precinct and county political conventions and live up to their obligation to give leadership in the community. Physicians should leap at the opportunity to address lay groups and tell them of the achievements, aims, and problems of medicine. Grievance committees should be publicized and the public made to know that they can expect honesty and fair play when dealing with the profession. The strongest men should be sent to the American Medical Association's House of Delegates in order that the spirit of the doctors of Texas "might ignite the spark that will arouse the doctors of the nation to take positive action that will regain for them the love and respect which they held before these days of giveaway and compromise."

Vance: Opportunity Carries Obligation

Marvin Vance, D.D., Austin, pastor of First Methodist Church, "The Stairs of Your Concepts":

John Steinbeck in one of his books wrote, "Man is the only thing in the universe, animate or inanimate, that grows beyond his work, walks up the stairs of his concepts, and emerges ahead of his accomplishments." Attitude determines action, so that the conception a man has of himself as an individual and of his place in life is important. Officials of the Texas Medical Association and the county medical societies are in strategic positions, so that it is vital they have the proper conception of (1) themselves as individuals, (2) their relationship to others, and (3) their obligation to their day and generation. Opportunity of leadership, like other opportunity, carries with it obligation, and capacity should mean contribution.

Williamson: H. R. 10 Needs One Vote

John C. Williamson, Washington, D. C., vice-chairman of American Thrift Assembly, "Federal Tax Problems of the Self-Employed":

Inequities of federal taxes are well known to exist, but the tax code has become so complicated major tax revision probably is still in the future. Meanwhile, physicians as self-employed persons are subject to taxation on funds set aside for old age unless they join a clinic group which is incorporated and thus may take advantage of provisions for tax deductions for pension plans or unless they form an unincorporated association taxable as a corporation.

Congress has before it the Keogh-Simpson bill (H.R.

10), which would defer the tax on income of a self-employed person so long as the money is invested in a restricted type annuity fund.

This bill passed the House of Representatives in March, 1959. It has been subjected to public hearings by the Senate Finance Committee and now is unfinished business of that committee.

A compromise may be in prospect. The alternatives are said to be (1) require the self-employed person to cover his employees as well as himself in a nondiscriminatory pension plan or (2) amend the tax code to bring a partner or proprietor within the definition of "employee" for the purpose of taking advantage of a pension plan allowance already on the books.

It appears that H.R. 10 is one vote short of being voted out of committee favorably. Interested constituents need to see that this vote is obtained.

Orientees enter the Texas Medical Association headquarters building January 16 for the Orientation Program for new and transfer members of the Association.

Kline: Is Someone Else Responsible?

Allan B. Kline, Western Springs, Ill., past president of American Farm Bureau Federation, "Today and Tomorrow":

Unprecedented changes in all areas of life today are so rapid that development is much faster than we can cope with or comprehend. Things are so technical that we have to put our trust in experts. "Someone else is responsible" is the logic of this period's rationale. Taking advantage of this feeling of misplaced responsibility, the Russian communistic movement is doing whatever it can to get into power. The communists will use force if need be. The United States is the only source of sufficient strength in the world to deter this communistic threat.

The Christian ethic on which the United States bases its mode of living defends the right of personal decision and personal responsibility. Using their own means and capacity for self government, men should remain free to make up their own minds about who will represent them. However, the tenth amendment clearly points out that if these free men do not meet their obligations and responsibilities adequately, it is up to the government to meet them. Today the trend is for us to release individual responsibilities more and more to the government. Not only will we lose control, but it will cost us more.

Each person must make his wishes known. No one should hesitate to write effective letters to his senators and representatives, such as the following: "Dear Senator: I voted for you the last time, or, I can vote for you the next time provided you don't identify yourself with the inflation people of Congress. This bill (name it) is a bad bill. Vote against it!" Such a letter will get results.

McKee: Action More Than Talk

John McKee, Dallas, regional civic and governmental affairs manager, Ford Motor Company, "Let's Return Politics to the People":

The American people are showing a new interest in taking politics and government back from the special interest pressure groups. This is a good trend: returning politics to the people is our best way to get better government. One danger is that all the talk about the desirability of an interest in politics may be construed as action, when actually it is only a prelude to work.

Government is best which most fully encompasses the interests of all the citizens. In America, a great source of political strength has been the fact that it has been possible to include a wide range of interests under the banner of each major political party. In recent years, however, special interest groups increasingly have influenced the kind of legislation we have had. Activity of these special groups is not improper, but to the extent that it subordinates the general interest to a selfish interest, it is reprehensible. Only by partisan political activity on the part of all voters can we return to government of, by, and for all the people.

A business or profession may make known its views as a whole. It also may encourage its employees or members to work actively in the party of their choice. This latter can be accomplished by (1) making politics popular with people generally, (2) informing people about politics and government, and (3) making political activity convenient for people.

Orsini: Insurance Needs Medicine

L. A. Orsini, New York, vice chairman, Health Insurance Council, panelist with Mr. Ehlinger, Mr. Earngey, and Dr. Kemp on "Achieving Greater Understanding of Health Care Costs":

Two of three persons in this country now own some form of health insurance, and the voluntary system paid $1,300,000,000 in benefits to reimburse physicians' services in 1958. With this medical economic revolution, will medicine emerge shackled by government or lay control or will it assume the responsibility and leadership essential to the voluntary way of providing and financing medical care? Voluntary health insurance supports the free practice of medicine but cannot succeed unless the medical profession assumes the initiative in establishing safeguards against inefficiency, waste, and overcharging.

In thinking of means to achieve these ends, it might be appropriate to establish a coordinating committee representative of the medical profession, insuring organizations, hospitals, and the consumer to formulate a program. For the overcharging problem, a review committee on the county or state level and for the inefficient use of hospital facilities, a committee from the hospital medical staff to

establish criteria and review cases should be considered. In addition to identifying problem cases and coping with the individual problem, physicians should be furnished with information to help them resist patient pressure, and an educational campaign on the existence of the program, reports on results, and basic information on the role of insurance should be carried to the hospitals, the physicians, and the public.

Ehlinger: More Care for Its Costs

Robert J. Ehlinger, Philadelphia, manager of public information for Smith, Kline and French Laboratories:

A survey in 1955 released by the Health Information Foundation showed that the public complained less about medical care costs than about other expenses and that those who blasted one area of consumer prices tended to blast all. A more recent series of interviews with 10 typical middle-income bracket families suggest that these families, like those surveyed in 1955, worry about the prices of everything—probably less about medical care because it hits their budget less frequently than other items. Too, they express the sentiment, "It's worth the price if it works."

Today more money than ever before is spent on medical care, and never before has medical care delivered so much for its cost. The National Health Education Committee in its 1959 reports calculated that since 1944, medical advances have saved the lives of at least 1,800,000 people. Latest figures from the Department of Commerce indicate that the average per capita expenditure for medical care in 1958 was $94.06 with $14 going for prescriptions. The average price of a prescription was only $3 with more than half costing less than that. From 1949 to 1957, prescription prices rose less than food and rent or than "all items" lumped together. The profits of pharmaceutical manufacturers are in line with profits in other industries, and there must be profits to cover the cost of developing the unsuccessful as well as the successful product.

The entire health team must accept as its personal assignment the need to convey the value of today's medical care to the public, largely through personal communication.

Earngey: Cost of Stay, Not Day

W. P. Earngey, Jr., Fort Worth, immediate past president of Texas Hospital Association and administrator of Harris Hospital:

The cost of hospital care has increased because of many factors. In 1946 hospital costs for salaries for all general hospitals averaged $4.98 per patient day; by 1958 this cost had increased 244 per cent to $18.13. This increase was the result of an increase in the amount paid per worker and an increase in the number of workers. Fringe benefits in addition to salaries also have increased. Supplies have

Heading the group down the stairs of the Texas Medical Association's headquarters building to the luncheon held at the Conference for County Medical Society Officials, January 16, are Paul Whiteman (left), orchestra leader and brother-in-law of Dr. William M. Crawford of Fort Worth, and Congressman Bruce Alger, Dallas. Mr. Alger, John C. Williamson (upper right), Washington, D. C., vice-chairman, board of directors, American Thrift Assembly, and John McKee (lower right), Dallas, regional civic and governmental affairs manager, Ford Motor Company, were speakers at the conference.

Members of the panel discussing "Achieving Greater Understanding of Health Care Costs" were (left to right) L. A. Orsini, New York, vice-chairman, Health Insurance Council; Arthur Kemp, Ph.D., Chicago, director, Department of Medical Economics Research of the American Medical Association; Robert J. Ehlinger, Philadelphia, manager of public information, Smith, Kline and French Laboratories; and W. P. Earngey, Jr., Fort Worth, administrator, Harris Hospital, and immediate past president of the Texas Hospital Association.

been subject to the inflationary trend, and departmentalization to assure necessary supporting services has increased the need for more employees per patient day (1.48 employees per patient day in 1946 compared with 2.18 in 1958) and the cost of "standby services."

Perhaps it would be wise to look at the cost of hospital care per patient *stay* rather than just the cost per patient *day*. For example, it has been estimated that it is approximately 10 per cent less expensive for a family to pay for maternity care today than it was in 1930.

The average person today tends to judge the cost of hospital care by the number of dollars he must pay for prepayment coverage. This is affected by a variety of forces. For example, utilization of hospitals is affected by family income, education, and urbanization.

The physician also has an effect on hospital costs. He can help control cost by standardization of procedures, supplies, and equipment and careful scheduling of elective admissions to use ancillary services to their maximum.

Kemp: Medical Cost Small Proportion

Arthur Kemp, Ph.D., Chicago, director of Department of Economic Research, American Medical Association:

"Skyrocketing medical care prices" may not be so bad upon close examination. Although the medical care price index of the Bureau of Labor Statistics increased more rapidly in the decade from 1948 to 1958 than did the consumer price index, the reverse was true in the inflationary decade preceding 1948. The total rise in the past two decades has been greater for the consumer price index and its commodity group than the rise in the medical care index, with medical care less hospital rates rising less than 60 per cent as much as commodities.

Price indexes, furthermore, fail to allow for quality changes. For example, although the price per day for hospital rates may be going up, the average hospital stay for a particular disease appears to be decreasing. Another factor frequently overlooked is the relatively small importance of medical care (5.4 per cent in the entire consumer price index) compared with, for example, 28.7 per cent for food and 32.7 per cent for housing.

In the past 20 years, the rise in weekly earnings for the factory worker in manufacturing industries has more than offset the rise in medical care prices, as well as prices in general, so that his real cost is less today than 20 years ago except for hospital rates. Also, whereas the worker in 1938 largely financed his own health services, today at least a part of the financing of medical care costs is included in employee benefits paid by employers or through union funds.

Alger: Profession Politically Unsophisticated

Bruce Alger, Dallas, Congressman from Fifth Texas District, "Can Doctors Be Free in a Planned Society?":

Business and professional groups generally have demonstrated less political sophistication than some of the labor groups, which have urged their members to judge a representative's performance not on one issue, but by his votes on a broad range of questions in which they believe they have a long range interest.

If any group is to be effective in shaping the legislation and guiding the system under which we will all live, it must get active in politics. The predicted rosy progress of the decade will be made only in a free society. A threat to the freedom of any segment of our society is a threat to the individual liberty of each one of us.

We are faced with a so-called liberal Congress. In an election year these forces will urge legislation that has a popular appeal, so there is likely to be pressure for legislation which will call for greater and greater spending. We still are in the midst of a cold war. Fiscal, civil rights, and welfare questions face us. In each area there is a choice. Doctors can help make those choices, which either will help save our system of free enterprise or will lead to virtual slavery.

(At the conclusion of Mr. Alger's address and in response to several queries from those who remained to speak to him, he suggested two sources of information on the voting record of congressmen: (1) "Free Citizens Voting Record, First Session, 86th Congress," Civic Affairs Associates, Inc., 2612 P Street, N.W., Washington 7, D. C.; (2) "ADA World," January, 1960, issue, Americans for Democratic Action, 1341 Connecticut Avenue, N.W., Washington 6, D. C., $2 a year. He noted that the first reports from a conservative viewpoint, the second from a liberal viewpoint, but that the voting records are essentially in agreement.)

Cooperation with Several Groups, Opposition to Forand Legislation Concern Executive Board

Need for a carefully evaluated code of cooperation between medical profession and press, means of curtailing expansion of federal care of veterans with nonservice connected disabilities, continuing opposition to "Forand-type" legislation, and coordination of efforts in the mental health, tuberculosis, and cancer fields were among the items considered in a 2 hour meeting of the Executive Board of the Texas Medical Association, January 17 in Austin. This was the second meeting at which councils presented reports

(Continued on page 135)

on behalf of the committees assigned to them, thus streamlining the procedures while permitting full consideration and debate on controversial or questionable points.

The Council on Public Relations and Public Service for some time has been advocating adoption of a code of cooperation to be used as a guide for county medical societies in their relations among physicians, hospitals, and the various communications mediums. The council reported considering a revised draft of such a code which it thought might be valuable to county groups. The Board of Councilors, reviewing the code independently, raised questions about certain of the provisions and recommended that the present draft not be approved. The Executive Board upheld the suggestions of the Board of Councilors but informally advocated that the public relations group and the Councilors get together to try to work out a code which would be acceptable.

Recommendations of the Committee on Military and Veterans Affairs that it be authorized to obtain data on types of patients in Veterans Administration hospitals and the relationship of medical schools to Veterans Administration hospitals were approved.

The Executive Board reiterated its opposition to Forand-type legislation and recommended that physicians be active in their opposition to the present measure before Congress that would extend medical care to the elderly through social security. Recommendations for such action originated in several groups reporting to the board.

Assistance of the Association's Committee on Mental Health in evaluating the program and administrative set-up of the state's mental health work was requested by the Legislative Budget Board. Tuberculosis clinics available throughout the state to ease the burden on state tuberculosis hospitals, a project of the Texas Tuberculosis Association, were supported by the Committee on Tuberculosis. Reactivation of the Cancer Coordinating Council with representation from most state level agencies active in the cancer field was recommended by the Committee on Cancer. The Executive Board approved all of these cooperative endeavors.

Notes on certain other items brought before the Executive Board follow:

President.—Dr. F. W. Yeager, Corpus Christi, President of the Association and presiding officer of the Executive Board, commented on the need for a better plan for disseminating medical news to the public and for opposition to Forand-type bills.

Trustees.—The Board of Trustees reported completion of payments on the headquarters building (the replacement cost of which is estimated at $767,000) and the availability of more dues for the general fund. Also commented upon was the enthusiasm of the Trustees in continuing a contract for printing of the *Texas State Journal of Medicine* with the Stafford-Lowdon Company of Fort Worth, which has performed this service since 1909 and is doing the printing at a price consistently lower than has been bid by other printing firms. The Trustees stated that 17 loans of $500 each have been made to medical students from the Dr. S. E. Thompson Fund.

Councilors.—In addition to its comments about a press code, the Board of Councilors stated that a revision of the Constitution and By-Laws relating to membership has been prepared and submitted to the Council on Constitution and By-Laws for study. When these groups have come to an agreement, the amendments will be placed before the House of Delegates. Attention was called to the "Digest of Official Actions, 1846-1958" available from the American Medical Association.

Executive Secretary.—A pleasing response to the first issue of *TMA Action,* the Association's new newsletter, was reported by the Executive Secretary. He also called attention to the distribution to county medical society officers of packets citing the availability of scientific and socioeconomic programs. The Library staff processed 3,200 reference requests last year and supplied motion picture films 1,148 times. The Physicians Placement Service had requests for help in finding locations from 462 physicians. Net revenue from *Journal* advertising increased 33 per cent over a year ago and was approximately $114,000 for 1959, the second largest source of revenue for the Association, exceeded only by membership dues. Technical exhibits at the annual session, which represent the third largest source of income, have been sold out for 1960 with a waiting list.

Delegates to American Medical Association.—Resolutions introduced by Texas delegates at the American Medical Association clinical session in December figured prominently in deliberations, the delegation reported. In the areas of special interest of these resolutions, the House strengthened its previous expression on free choice by stating that the AMA firmly subscribes to freedom of choice of physician and free competition among physicians as being prerequisite to optimal medical care. The House reaffirmed the 1951 guides to "Relationships Between Physicians and Hospitals." It approved in principle the conducting of relative value studies by each state medical association rather than a nationwide study. The House voted not to approve a congressional measure that would institute a federal program of international medical research. The delegates also recommended to the Executive Board that it oppose Forand-type legislation.

Annual Session.—The 1960 annual session, set for Fort Worth April 9-12, is in the final planning stages. The chairman of the Council on Annual Session called attention to several features of interest, complimented the local Committee on General Arrangements for its work to assure a successful meeting, and referred to plans of the Committees on *Memorial Services* and *Scientific Exhibits.* The chairman of the Committee on *General Arrangements* was invited to speak briefly and mentioned the signing of Les Elgart and his orchestra and other entertainment for the President's Party and a variety of sports activities available.

Medical Jurisprudence.—In considering proposed legislation, the Council on Medical Jurisprudence expressed itself as in agreement with the motives for legislation licensing physical therapists but unable to approve the proposed bill because it probably would be held unconstitutional and might have other results the therapists themselves would not desire. The council is considering the feasibility of introducing legislation to exempt physicians from malpractice claims where the physicians render emergency medical care. The council joined the Committee on *Military and Veterans Affairs* in recommending that the committee be authorized to carry on an educational program among physicians relative to Veterans Administration hospital practices.

Public Relations.—Annual session publicity, *TMA Action,* Anson Jones award entries, and other items were reported as having been considered by the Council on Public Relations and Public Service. The council concurred in the recommendations of the Committee on *Public Health* that county officials should be encouraged to provide funds to defray expenses of part time city and county health officers to attend orientation courses, that county societies should urge employees of nurseries and schools to be screened for tuberculosis before employment, and that increased use of tetanus toxoid in adults as well as children should be encouraged. The council also concurred in recommendations from the Committee on *Industrial Health* that the occupational health programs for hospital employees be supported and that county medical societies should have a

program annually on occupational health problems of their area.

A resolution commending Dr. Ralph E. Gray of Freeport for his outstanding activities in the field of emergency medical service was strongly endorsed. The report of the Committee on *Emergency Medical Service* showed it to be continuing its activities. Scheduled for presentation at the annual session is a survey of medical preparedness by component county societies.

The Committee on *Aging* has forwarded packets on programs for the aging to each county medical society and is developing other ideas on aging for consideration by the county societies.

A statewide Conference on Physicians and Schools will be held in Dallas, April 4, under sponsorship of the Committee on *School Health*. Subject of the conference will be "Emotional Growth of the Child." This committee stressed again the control of tuberculosis through examination of teachers and lunchroom personnel annually. Because the committee considered that "the Governor's Conference on Children and Youth reached immature conclusions and recommendations for the 1960 White House Conference," it suggested that the Committee on Mental Health review the actions of this conference. The Executive Board approved this recommendation and without formal action agreed that the findings of the committee should be considered and if appropriate called to the attention of the Governor.

Medical Education and Hospitals.—The Council on Medical Education and Hospitals called attention to the existence of the Committee to Encourage and Assist Hospitals in Securing Accreditation, which serves as a liaison with hospitals in efforts to obtain accreditation. After further consideration of the Medical Research Foundation of Texas, which previously had been commended by the council, the council recommended that the Texas Medical Association "reaffirm its endorsement of the accomplishments and purposes of the foundation and that it offer the services of this council as a medical advisory group to the foundation." The Executive Board approved.

The council endorsed the request of the Committee on *Military and Veterans Affairs* that the deans of the Texas medical schools assist his committee in assembling data concerning the relationships of medical schools and Veterans Administration hospitals.

Scientific Advancement.—Reports of the Committees on *Cancer, Mental Health,* and *Tuberculosis* and action on them are mentioned in the introductory paragraphs of this review. The Committee on *Nuclear Medicine* reported planning a symposium on "Biologic Aspects of Fallout and Radioactive Waste Disposal" for presenting in connection with the annual session April 9 in Fort Worth. The council had heard a report from the Committee on *Rehabilitation* relative to the proposed licensing of physical therapists and had requested the committee to restudy the measure and refer its recommendations to the Council on Medical Jurisprudence.

Fort Worth Reporter Wins Anson Jones Award

Blair Justice of the *Fort Worth Star-Telegram* was announced January 16 as the first place winner of the Anson Jones Award, which the Texas Medical Association annually gives a newspaper reporter in the state for outstanding work in reporting lay medical information. The award consists of $250 and a bronze plaque.

Other winners include Marjorie Clapp of the *San Antonio Light,* second place, who will receive $100, and Mary Tom Rasco of the *Amarillo Daily News and Globe Times,* third place, who will receive $50. John Whiting of the *Marshall News Messenger,* who was given a special award for community service reporting a polio inoculation campaign. He will be given a bronze plaque.

Members of the Association's Council on Public Relations and Public Service served as judges. The awards are presented each year at the Association's annual session.

Nominees for the award this year included Helen Bullock, *The Dallas Morning News;* Mark Deering, *El Paso Times;* Harry McCormick, *The Dallas Morning News;* Seth Kantor, *Fort Worth Press;* Katharyn Duff, *Abilene Reporter News;* Al Williams, *Austin American-Statesman;* Lorraine Barnes, *Austin American-Statesman;* Marj Wightman, *Austin American-Statesman;* T. V. Thompson, *Houston Press;* and Tom Thorpe, *Houston Chronicle.*

Scientific Program To Highlight 1960 TMA Annual Session

A scientific program, including 26 out-of-state guest speakers and numerous Texas physicians, will be the main feature of the 1960 annual session of the Texas Medical Association, April 9-12, in Fort Worth. Section and specialty society presentations, refresher courses, and general meetings will provide outlets for scientific papers and discussions.

Also, during the session will be scientific and technical exhibits, motion pictures, entertainment, sports, committee meetings, meetings of the House of Delegates, Woman's Auxiliary activities, alumni banquets, and fraternity parties, as well as general meeting luncheons.

Among the features on the section programs will be the following: *Section on General Practice*—"Cone Biopsy and Cytologic Smear in the Management of Cervical Carcinoma," Dr. Ben M. Peckham, Madison, Wis.; "Operations for Inguinal Hernia," Dr. Mark M. Ravitch, Baltimore; *Section on Internal Medicine*—"The Present Status of Bone Marrow Transplantation," Dr. William Dameshek, Boston; a panel discussion on "Treatment of the Leukemias"; *Section on Surgery*—"Carcinoma of the Lung," Dr. O. Theron Clagett, Rochester, Minn.; "The Role of the Radiologist in the Diagnosis of Cancer of the Colon," Dr. Eugene P. Pendergrass, Philadelphia; *Section on Radiology*—"An Improved Method for the Diagnosis of Solitary Pulmonary Nodules," Dr. L. Henry Garland, San Francisco; a panel discussion on "Carcinoma of the Esophagus."

Other presentations of special significance on the section programs will be the *Section on Public Health*—"New Answers to the Problem of Chronic Disability," Dr. John D. Porterfield, Washington, D. C.; *Section on Pediatrics*—"Understanding the Adolescent," Edward O. Harper, Baltimore; *Section on Pathology*—"The Importance of Cytology," Dr. James W. Reagan, Cleveland, Ohio; *Section on Eye, Ear, Nose, and Throat*—"New Drugs in Ophthalmology," Dr. Peter C. Kronfeld, Chicago; "Cyclodiathermy," Dr. Frank H. Constantine, New York; "Functional Hearing Loss," Dr. Walter P. Work, San Francisco.

Among the attractions of the specialty societies will be the presentation of the Army Burn Team of the Brooke Army Hospital in San Antonio by the *Texas Industrial Medical Association, Texas Physical Medicine and Rehabilitation Society,* and the *Texas Traumatic Surgical Society;* the first program meeting of the *Texas Otolaryngological Association,* which with the Section on Eye, Ear, Nose, and Throat will sponsor a full day on ear, nose, and throat; and a special speaker for the *Texas Diabetes Association,*

Dr. George F. Cahill, Jr., Boston, and for the *Texas Society of Anesthesiologists,* Dr. Louis W. Lewis, Los Angeles.

Other specialty society features will be the *Texas Air Medics Association*—"The ABC's of Spatial Vectorcardiography," Dr. Lewis Gunther, Los Angeles; *Texas Neuropsychiatric Association*—"Prolonged Narcosis in Certain Psychosomatic Disorders—A Preliminary Report," Dr. Edward O. Harper, Cleveland, Ohio; "Studies in Parkinsonism, Graphic Measurements in Tone, Tremor, and Voices," Dr. Benjamin Boshes, Chicago; *Texas Orthopedic Association*—"Post-Irridiation Fractures of the Neck of the Femur," Dr. William H. Bickel, Rochester, Minn.; *Texas Society of Athletic Team Physicians*—"Treatment of Musculotendinous Injuries to the Athlete," Dr. Don H. O'Donoghue, Oklahoma City; *Texas Society of Gastroenterologists and Proctologists*—"Current Concepts in the Management of Diverticulosis of the Colon," Dr. Gordon McHardy, New Orleans; and the *Conference of City and County Health Officers*—"Medical Implications of Health Hazards in Our Environment," Dr. John D. Porterfield, Washington, D. C.

The *Texas Dermatological Society* will include "Immunologic Aspects of Fungous Diseases," by Dr. J. Walter Wilson of Los Angeles. Also meeting at the annual session will be the *Texas Society of Plastic Surgeons* and the *Texas Chapter of the American College of Chest Physicians.*

Entertainment Includes Elgart Orchestra

Les Elgart and His Orchestra have been signed for the President's Party on Tuesday evening of the annual session. The party, to include dinner, dancing, and floor show type entertainment, will be held at Ridglea Country Club. In addition to the Elgart music, Curly Broyles and his Basin Street Paraders, and the Pitch Pirates quartet, will assure a full evening of fun.

Exhibits to Be High Point

For the second year, members of the Association will be invited to express their preferences in a popularity poll to be conducted for the scientific exhibits. Already lined up is a full slate of exhibits including such subjects as arterial surgery, bronchogenic carcinoma, and radiation injury. The scientific exhibits will have a full building to themselves—the Exhibit Hall across the street from the Hotel Texas.

Motion pictures will supplement the general meeting programs, being shown simultaneously in a room not far away and including topics to round out the general meeting subjects.

Technical exhibits to the full extent of available space will bring to Texas doctors many of the latest products to help them in their practice.

Sports Events on Tuesday

An array of sports events has been planned Tuesday afternoon, in addition to the scientific program. Among these are handball, sailing, boating, tennis, and skeet shooting. For further information on the sports, those interested may write Dr. Dolphus E. Compere, 1415 Pennsylvania Ave., Fort Worth, for all sports except golf, and Dr. O. P. Griffin, 1101 Medical Arts Building, Fort Worth, for golf.

Hotels Accepting Reservations

Hotel and motels in Fort Worth are now accepting reservations for the annual session. A list of hotels and motels with a mailing card can be found on the inserted page opposite page 134. Requests for accommodations should be sent to the motel or hotel of choice, together with an indication of arrival and departure times, type of facility desired, and persons who will occupy the room and their position in relation to the Association or session. Designation of alternate choices will speed reservations should substitution be necessary.

Constitutional Amendments for Action

Constitutional amendments relating to fee schedules, making of contracts, and citizenship as a prerequisite for membership will be before the House of Delegates when the Texas Medical Association convenes in Fort Worth in April.

A resolution presented in 1959 by Tarrant County Medical Society carried the following "resolved":

"Resolved: That the House of Delegates of the Texas Medical Association shall amend the By-Laws of that Association by inserting as an additional sentence at the end of Chapter VI, Section 1: 'No official action shall be taken by the Texas Medical Association establishing any schedule of fees for the medical, surgical, and special services of its members'; be it further

"Resolved: That the House of Delegates of the Texas Medical Association add the same statement as an amendment to the Constitution of the Texas Medical Association, to be inserted as an addition at the end of Article I, Section 2." (See June, 1959, *Journal,* page 537.)

The amendment to the By-Laws was approved by the House, but the amendment to the Constitution had to lay over a year and will be ready for action in Fort Worth. It was referred to the Board of Councilors.

The Brazoria County Medical Society offered a resolution last year to

"Amend the Constitution of the Texas Medical Association as follows: Article I, Section 2, add 'The Association shall not have the right to enter into a contract with any person, firm, or agency of any kind with respect to the practice of medicine, or fees for such practice.'" (See June, 1959, *Journal,* page 534.)

A resolution of similar intent but requesting an amendment to the By-Laws (without specifying where in the By-Laws such provision should be inserted) was approved by the House. The constitutional amendment was referred to the Board of Councilors and can be voted upon finally this year.

In 1958 Hidalgo-Starr Counties Medical Society introduced a resolution with the following "resolved":

"Resolved: First, that the Hidalgo-Starr Counties Medical Society go on record favoring a requirement that American citizenship be required of applicants for eligibility for membership in the Texas Medical Association; and

"Second, that the delegate from Hidalgo-Starr Counties Medical Society be directed to present this resolution to the House of Delegates at the next annual meeting of the Texas Medical Association." (See June, 1959, *Journal,* page 493.)

This resolution was referred to the Council on Constitution and By-Laws, which reported back to the House in 1959 without recommendation. The resolution was referred to the Board of Councilors as a reference committee. The Board of Councilors in its report stated that as a reference committee it "recommends approval of the principle of the resolution presented by the Hidalgo-Starr Counties Medical Society and recommends that this resolution be referred to the Board of Councilors for further study of the legal aspects involved; and that the Board present it to the House of Delegates at the next regular session for action as a constitutional change." The reference committee report was accepted, and the subject will be before the House of Delegates again this year.

★ County Societies

County Society Officers

The following is a partial list of county medical society officers who have been elected for the year 1960:

Andrews-Ector-Midland.—Dr. Ralph G. Greenlee, Midland, president-elect; Dr. John H. Bryan, Odessa, secretary; Dr. Edwin T. Driscoll, Midland, and Dr. George W. Horton, Odessa, delegates. Dr. John E. Bauman of Odessa became president.

Armstrong-Donley-Childress-Collingsworth-Hall-Wheeler.—Dr. Robert C. Butler, Childress, president; Dr. Jack F. Fox, Childress, vice-president; and Dr. J. J. Westenburg, Childress, secretary-treasurer; Dr. James A. Odom, Memphis, delegate.

Bee-Live Oak-McMullen.—Dr. Tom B. Reagan, Beeville, president; Dr. E. W. Muecke, Three Rivers, vice-president; Dr. Ernest E. Miller, Beeville, secretary-treasurer; and Dr. Muecke, delegate.

Bell.—Dr. N. C. Hightower, president-elect and secretary-treasurer; Dr. E. W. Keil, vice-president; Dr. John W. Padgett, and Dr. R. A. Murray, delegates; all of Temple. Dr. J. H. Greenwood, Temple, became president.

Bosque-Hamilton.—Dr. Frank Gomez, Evant, president-elect; Dr. S. L. Witcher, Clifton, vice-president; Dr. W. F. Key, Clifton, secretary-treasurer; Dr. V. D. Goodall, Clifton, delegate. Dr. W. T. Holder, Clifton, assumed his duties as president.

Cameron-Willacy.—Dr. David Flory, Harlingen, president-elect; Dr. Jack Miller, Brownsville, vice-president; Dr. Liston Beazley, Harlingen, secretary-treasurer; Dr. Hunter Scales, San Benito, and Dr. Dudley Lancaster, Harlingen, delegates.

Collin.—Dr. Erwin G. Pink, Frisco, president; Dr. Mack M. Hill, McKinney, vice-president; Dr. Tom E. Linstrum, McKinney, secretary.

Comal.—Dr. Stanley M. Woodward, president; Dr. Fred Frueholz, Jr., vice-president; Dr. Donald S. Kennady, secretary-treasurer; Dr. Arthur Bergfeld, delegate, all of New Braunfels.

Crane-Upton-Reagan.—Dr. J. L. Wright, Jr., Big Lake, president; Dr. B. J. Maynard, Crane, vice-president; Dr. John E. Terry, Crane, secretary-treasurer; Dr. Wright, delegate.

Dallam-Hartley-Sherman-Moore.—Dr. William V. Coventry, Dumas, president; Dr. Roscoe A. Gutekunst, Dalhart, vice-president; Dr. Byron W. Wright, Dumas, secretary-treasurer; Dr. Duane W. Meredith, Dumas, delegate.

Dallas.—Dr. Felix L. Butte, president-elect; Dr. John S. Minnett, vice-president; Dr. Willard C. Sellman, Jr., secretary; Dr. George N. Aldredge, Jr., treasurer; Dr. Guy T. Denton, Jr., Dr. Ridings E. Lee, Dr. David W. Carter, Jr., Dr. Frank H. Kidd, Jr., Dr. George M. Jones, Dr. Oscar Marchman, Jr., Dr. Barton E. Park, Dr. George V. Launey, Dr. John S. Chapman, Dr. Arnott DeLange, Dr. Glenn D. Carlson, and Dr. Charles M. Cole, delegates; all of Dallas. Dr. Lester H. Quinn, Dallas, assumed the duties of the presidency.

Eastland-Callahan-Stephens-Shackelford-Throckmorton.—Dr. M. A. Treadwell, president; Dr. E. R. Townsend, vice-president; Dr. Jim Whittington, secretary; Dr. Whittington, delegate; all of Eastland.

El Paso.—Dr. Louis W. Breck, president-elect; Dr. Jesson L. Stowe, vice-president; Dr. O. G. Zacharias, treasurer; Dr. Bradford Hardie, secretary; Dr. E. S. Crossett, secretary-treasurer; all of El Paso. Dr. Delphin von Briesen of El Paso became president.

Falls.—Dr. Roy Giles, president; Dr. Domingo Useda, vice-president; Dr. Howard L. Smith, secretary-treasurer; Dr. Howard O. Smith, delegate; all of Marlin.

Freestone.—Dr. Joe D. Crossno, Fairfield, president-elect; Dr. Jack R. Cox, Teague, vice-president; Dr. John H. Keller, Jr., Fairfield, secretary-treasurer; Dr. Keller, delegate. Dr. Maurice Gage, Teague, became president.

Galveston.—Dr. Weldon G. Kolb, La Marque, president-elect; Dr. Andrew J. Magliolo, Dickinson, vice-president; Dr. Harry K. Davis, League, secretary-treasurer; Dr. William T. Anderson, LaMarque; Dr. Joseph Magliolo, Dickinson, and Dr. Edward J. Lefeber, Galveston, delegates. Dr. E. Sinks McLarty of Galveston became president.

Hardeman-Cottle-Foard-Motley.—Dr. Clarence C. Pate, Paducah, president; Dr. Albert C. Traweek, Jr., Matador, vice-president; Dr. John F. Hughes, secretary-treasurer; Dr. Walter A. Brooks, Quanah, delegate.

Hardin-Tyler.—Dr. Sam P. Copeland, Silsbee, president; Dr. James L. Spidle, Sour Lake, vice-president; Dr. George D. Tennison, Silsbee, secretary-treasurer; Dr. L. Gayle Burton, Woodville, delegate.

Harris.—Dr. Robert K. Blair, president-elect; Dr. Jasper H. Arnold, vice-president; Dr. Charles W. Klanke, secretary; Dr. Lester Karotkin, treasurer; Dr. Thomas J. Vanzant, Dr. Thomas P. Kennerly, Dr. Howard T. Barkley, Dr. William F. Renfrow, Dr. J. Griffin Heard, Dr. Thomas L. Royce, Dr. Charles D. Reece, Dr. William E. Sharp, Dr. Sylvester W. Thorn, Dr. Wendell H. Hamrick, Dr. George W. Waldron, Dr. C. Forrest Jorns, Dr. J. Stanley Oliver, and Dr. Bill Robins, delegates; all of Houston. Dr. Wendell H. Hamrick, Houston, became president of the society.

Hill.—Dr. J. M. Buie, Whitney, president; Dr. J. E. Latham, Bridgeport, vice-president; Dr. Charles A. Garrett, Hillsboro, secretary-treasurer; and Dr. Dick K. Cason, Hillsboro, delegate.

Jefferson.—Dr. William H. Brandau, Beaumont, president-elect; Dr. Houston F. Byrd, Port Neches, vice-president; Dr. G. R. Solis, Port Arthur, secretary-treasurer; Dr. Paul R. Meyer, Port Arthur; Dr. James B. Ivers, Beaumont; and Dr. John M. White, Jr., Port Arthur, delegates. Dr. Louian C. Carter of Port Arthur took over the duties of president.

Johnson.—Dr. H. H. Filardi, Cleburne, president; Dr. E. L. Clark, Cleburne, vice-president; Dr. C. D. Hamilton, Jr., Cleburne, secretary; Dr. J. F. Peters, Alvarado, delegate.

Lamb-Bailey-Hockley-Cochran.—Dr. A. L. Walsh, Levelland, president; Dr. D. J. Stafford, Littlefield, vice-president; Dr. E. D. Barnes, Levelland, secretary-treasurer; Dr. William C. Nowlin, Littlefield, delegate.

Lampasas-Burnet-Llano.—Dr. Ralph E. Gardner, Bertram, president-elect and vice-president; Dr. Donald W. Carroll, Lampasas, secretary; and Dr. Ray L. Shepperd, Burnet, delegate. Dr. Billy B. Ozier, Burnet, became president.

Lavaca.—Dr. Robert W. Williams, Shiner, president; Dr. Emil H. Marek, Yoakum, vice-president; Dr. Robert J. Wagner, Shiner, secretary-treasurer; Dr. Herman W. Gaddis, Hallettsville, delegate.

Liberty-Chambers.—Dr. Thomas L. Fahring, Anahuac, president; Dr. Frank S. Griffin, Liberty, vice-president; Dr. Charles W. Castle, Liberty, secretary-treasurer; Dr. Fahring, delegate.

Medina-Uvalde-Maverick-Val Verde-Edwards-Real-Kinney-Terrell-Zavala.—Dr. John C. Spencer, Crystal City, president; Dr. C. R. Sutton, Uvalde, vice-president; Dr. Sterling H. Fly, Jr., Uvalde, secretary-treasurer; Dr. Dean P. Dimmitt, Uvalde, delegate.

Nacogdoches.—Dr. Matthew J. Buchele, San Augustine, president; Dr. Thomas J. Pennington, Nacogdoches, vice-president; Dr. Eugene S. Rogers, Nacogdoches, secretary-treasurer; Dr. J. Frank Beall, Nacogdoches, delegate.

Nueces.—Dr. Walter C. Brown, president-elect; Dr. Jack F. McKemie, vice-president; Dr. Helen H. Woods, secretary;

Dr. James G. Gabbard, treasurer; Dr. Fred H. Hartwick, Dr. Walter T. Davis, and Dr. Hugh A. Kennedy, delegates; all of Corpus Christi. Dr. James R. Riley of Corpus Christi became president.

Orange.—Dr. Robert F. Minkus, president; Dr. Robert A. Ingram, vice-president; Dr. Oscar R. Griffin, secretary-treasurer; Dr. R. E. Allen, delegate; all of Orange.

Pecos-Jeff Davis-Presidio-Brewster.—Dr. V. Alan Sherrod, Iraan, president-elect; Dr. John C. Hundley, Fort Stockton, vice-president; Dr. William E. Lockhart, Jr., Alpine, secretary; Dr. Charles E. Oswalt, Jr., Fort Stockton, treasurer; Dr. D. J. Sibley, Fort Stockton, delegate. Dr. George A. Hoffman of Fort Stockton became president.

Potter-Randall.—Dr. J. Victor Ellis, president-elect; Dr. Howard M. Bordelon, vice-president; Dr. Tom W. Duke, secretary-treasurer; Dr. Charles B. Sadler and Dr. William Klingensmith, delegates; all of Amarillo. Dr. H. Fred Johnson of Amarillo became president.

Rusk.—Dr. M. T. Braswell, president-elect; Dr. A. S. Wolfe, vice-president; Dr. Martin C. Scaff, secretary; Dr. Lloyd Deason, delegate; all of Henderson. Dr. C. L. McShan, Henderson, became president.

San Patricio-Aransas-Refugio.—Dr. William A. Guynes, Mathis, president-elect; Dr. F. S. Ewing, Sinton, secretary-treasurer; Dr. C. A. Selby, Sinton, delegate. Dr. Charles H. Simpson, Sinton, took over the duties as president.

Tarrant.—Dr. C. P. Hawkins, president-elect; Dr. Holland T. Jackson, vice-president; Dr. Emory Davenport, secretary-treasurer, all of Fort Worth. Dr. Walter B. West, Fort Worth, was installed as president.

Travis.—Dr. Morris D. McCauley, president-elect; Dr. Ruth M. Bain, secretary-treasurer; Dr. E. K. Blewett, Dr. F. C. Lowry, and Dr. Benjamin M. Primer, delegates; all of Austin. Dr. Charles B. Dildy of Austin will become president when the other officers for 1960 take office May 1.

Washington-Burleson.—Dr. Charles E. Southern, Brenham, president; Dr. Thomas H. Giddings, Brenham, vice-president; Dr. Robert L. Schoenvogel, Brenham, secretary-treasurer; Dr. George V. Pazdral, Somerville, delegate.

Webb-Zapata-Jim Hogg.—Dr. James S. Reitman, president; Dr. S. H. Graham, Jr., vice-president; Dr. Leonides G. Cigarroa, secretary-treasurer; Dr. Joaquin G. Cigarroa, Jr., delegate; all of Laredo.

Wharton-Jackson-Matagorda-Fort Bend.—Dr. J. R. Sawyers, Edna, president-elect; Dr. Isaac Kleinman, Rosenberg, secretary; Dr. Granville E. Horton, Wharton, delegate. Dr. Franz E. Amman of Rosenberg became president.

County Society Briefs

The first issue of the *Harris County Society Bulletin* in magazine format was distributed in January. Dr. William M. Sherrill of Houston is editing the bulletin, with the assistance of an editorial committee.

The new officers of the *Bexar County Society* were formally installed January 12 in San Antonio. Dr. Stanley Olson, dean of the Baylor University College of Medicine at Houston, was the guest speaker for the occasion. His subject was "Modern Medical Education."

Featured on the January program of the *Potter-Randall Counties Society* was Dr. James V. Warren, professor of medicine and chairman of the Department of Internal Medicine at the University of Texas Medical Branch in Galveston. He spoke on "Fits and Faints."

At the January meeting of the *Dallas County Society,* Claude Robinson, Ph.D., Princeton, N. J., chairman of the board of Opinion Research Corporation, spoke on "The Political Challenge to Medicine."

The *Tom Green-Eight County Society* met January 4 in San Angelo. In response to a question before the Association's House of Delegates, an opinion was given that a doctor should be a citizen of the United States before becoming a member of the Texas Medical Association.

It was requested that death certificates be typed in the future so that they can be easily reproduced.

A motion passed concerning the establishment of an Explorer Scout post which would serve as an information center to boys above 14 years of age who desire information concerning medicine as a future profession. A sponsor was designated for the project who will get in touch with individual members of the society for their services when a group of boys desire advice in the field.

The emergency hospital equipment the society is storing at present was discussed. It was suggested that the doctors could obtain experience in setting up an emergency hospital of this type by ordering a hospital for practice purposes, and the society voted to hold such a practice session.

Millard Heath, executive secretary of the *Dallas County Society,* presently is working part time with the American Medical Association's field staff on an educational program on Forand-type legislation.

The *San Patricio-Aransas-Refugio Counties Society* held a business meeting December 9 in Sinton. A number of changes in the constitution of the society were announced, in addition to the election of officers.

Members of the society and their wives heard Dr. R. Mayo Tenery of Waxahachie speak on "Medical Ethics and Medical Etiquette" at their meeting February 3, in Sinton.

The *Dallas County Society* met February 9 in Dallas to hear a scientific program on "Surgery in Infants and Children," which included presentations by Dr. George W. Dorman, Dallas, "Intestinal Obstruction in Young Infants," and Dr. Theodore P. Votteler, Dallas, "Bilateral Inguinal Hernia Repair in Children." Dr. J. Warner Duckett, Dallas, led a discussion.

★ District Societies

Ninth District Society To Hear Dr. May Owen

Dr. May Owen of Fort Worth, President-Elect of the Texas Medical Association, will make a luncheon address when the Ninth District Medical Society holds its tenth annual meeting March 17 at the Brenham Golf Club.

The meeting will begin with 8:30 a.m. registration. Dr. C. E. Southern, president of the Washington-Burleson Counties Medical Society, will make the welcome address.

Scientific program speakers will include Dr. T. H. Giddings, Brenham; and Drs. Marvin E. Chernosky, Ben T. Withers, Raymond D. Pruitt, John L. Perry, Herman L. Gardner, Joe W. King, James Stuart Boren, and Marshall G. Henry, all of Houston.

Second District Society Symposium

The Second District Medical Society will hold a "Symposium on the Newer Concepts in Management of the Surgical Patient," March 6 at 1 p.m. at the Scharbauer Hotel in Midland. Participating on the program will be Dr. Mavis P. Kelsey, Dr. William D. Seybold, and Dr. Eugene L. Slataper, all of Houston.

RECENT DEATHS

DR. GLYNNE BROWN

Dr. Glynne Brown, Tyler general practitioner, died in that city on January 19, 1960, after a long illness.

Born in Benton County, Miss., on December 19, 1901, Dr. Brown was the son of Lee W. and Susie (Collier) Brown. After graduation from Potts Camp High School, he received a bachelor of science degree from the University of Mississippi, Oxford. He received his medical degree in 1925 from the University of Virginia, Charlottesville.

Dr. Brown served his internship at Macon City Hospital, Macon City, Ga., and his residency at St. Louis and Southwestern Hospital, Texarkana, Ark. He began his Tyler practice in 1929, also serving on the staffs of Mother Frances and Medical Center Hospitals.

The physician was a member of the American Medical Association, Texas Medical Association, Southern Medical Association, and Smith County Medical Society. He served as president of the latter group, and he twice served as president of the staff of Mother Frances Hospital, Tyler.

DR. GLYNNE BROWN

Dr. Brown was a member and elder emeritus of the First Christian Church of his city. He was a breeder of registered Hereford cattle.

Surviving the physician are his wife, the former Miss Evelyn Calvert Via, whom he married in Charlottesville, Va., on September 21, 1927; three daughters, Mrs. Evelyn Ann Squyres of Tyler, Mrs. Loyce Collenback of San Antonio, and Mrs. Joyce Wiley of Asuncion, Paraguay; and six grandchildren.

An obituary ordinarily will not be published more than four months after date of death. Cooperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

DR. HAL C. DOUGLASS

Dr. Hal C. Douglass, general surgeon, of Fort Worth, died November 7 in Fort Worth of a heart attack.

Born in Russellville, Ala., November 19, 1899, Dr. Douglass attended the University of Alabama and the Medical College of the University of Alabama, and was graduated from Tulane University School of Medicine, New Orleans, in 1923. He interned at the Charity Hospital in New Orleans, and did postgraduate work at the University of Pennsylvania, Philadelphia. Dr. Douglass served as county health officer and field agent for the United States Public Health Service in Franklin County, Ala., soon after his graduation from medical school. During his career as surgeon, he practiced in Mercedes, Monahans, Seagraves, and Fort Worth. Entering military service in 1942, Dr. Douglass was a captain in the Army Medical Corps for about a year.

DR. HAL C. DOUGLASS

Among the organizations of which Dr. Douglass was a member were the Texas Medical Association, Tarrant County Medical Society, American Medical Association, Thirteenth District Medical Society, and the Association of Military Surgeons. He also had held membership in the Hidalgo and Dawson-Lynn-Terry-Gaines-Yoakum Counties Medical Societies. In 1958 Dr. Douglass was elected to inactive membership in the Texas Medical Association.

Survivors include his wife, Mrs. Hal C. Douglass, Fort Worth; a daughter, Mrs. Don Dow, Midland; and a son, Dr. Hal C. Douglass, Jr., Houston.

DR. ROBERT W. MAGINOT

Dr. Robert Wendell Maginot, Houston, died at his home in that city on January 16, 1960.

Son of San Angelo wool buyer Henry W. Maginot and Esther Julia (Mayer) Maginot, Dr. Maginot was born in Boston, Mass., on October 23, 1922. He attended San Angelo schools and later San Angelo Junior College. At first interested in journalism, he was editor of the first issue of the college yearbook, "The Rambouillet," in 1941, and he contributed numerous photographs to the college publications.

Finding himself increasingly interested in medicine, Dr. Maginot received a bachelor of arts degree from the University of Texas in 1944 and a medical degree from Baylor University College of Medicine in 1949. He interned at John Sealy Hospital, Galveston.

Dr. Maginot opened an office and clinic for the general practice of medicine in Eldorado in September, 1950. Assisting him was his wife, the former Miss Dorothy Peters of Houston, who was a trained x-ray and laboratory technician. The couple had been married in Galveston on January 21, 1947.

Two years later, the clinic was closed when Dr. Maginot was called into the service. A first lieutenant in the Army Medical Corps Reserve, he served first with the Student Detachment Medical Field Service School, Brooke Army Medical Center, San Antonio, then 14 months in Korea, and finally a brief period at Fort Hood.

He had been practicing in Houston for about 5 years at the time of his death.

Dr. Maginot had been a member of the American Medical Association, Texas Medical Association, Harris County Medical Society, Harris County Academy of General Practice, American Academy of General Practice, and Phi Beta Pi medical fraternity. He was a Methodist. His hobby was photography.

Dr. Maginot is survived by his wife; four children, Preston Monroe, Mark Alan, Julie, and Susan Elaine Maginot, all of Houston; his parents of San Angelo; and a brother, Philip Henry Maginot of Austin.

DR. W. GRADY REDDICK

Dr. Walter Grady Reddick, Dallas, died in his sleep December 31, 1959, the result apparently of a heart attack.

Dr. Reddick was born January 24, 1899, in Dallas, the son of G. P. and Mae (Turnage) Reddick. After attending Dallas public schools, Southern Methodist University, and Baylor University College of Medicine, then at Dallas, he transferred to Northwestern University School of Medicine at Chicago, where he received his doctor of medicine degree in 1924. After serving as intern and resident at Cook County Hospital in Chicago, he opened a practice in internal medicine at Dallas, continuing it until his death and interrupted only by a period of service in this country and the Pacific as a captain in the United States Navy during World War II. Dr. Reddick was clinical professor of internal medicine at the University of Texas Southwestern Medical School at Dallas and had been physician-in-chief of Parkland Hospital and attending physician at Baylor Hospital.

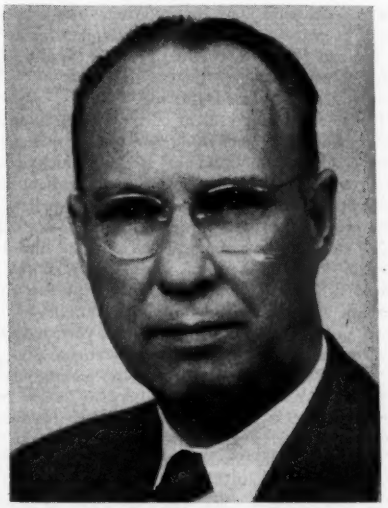
The author of numerous scientific articles, published both in state and national journals, Dr. Reddick was a diplomate of the American Board of Internal Medicine and a fellow of the American College of Physicians. He belonged to the Dallas County Medical Society, Texas Medical Association, American Medical Association, American Diabetes Association, Dallas Southern Clinical Society, Texas Club of Internists and Dallas Internist Club. He also held memberships in Alpha Omega Alpha, honorary medical fraternity; and Phi Beta Pi, medical fraternity; Phi Beta Kappa, honorary scholastic fraternity; and Alpha Tau Omega, social fraternity. In 1945, Northwestern University's Alumni Association conferred its award of merit on Dr. Reddick.

Members of the family who survive include his wife, the former Miss Carol Shands, whom he married in 1928; two children, Keith Reddick of Dallas and Mrs. Nancy R. Welch of Fort Benning, Ga.; a brother, W. C. Reddick of Dallas; and five sisters, Mrs. M. C. Morris of Wichita Falls, Mrs. George Johnson, Mrs. H. W. Shotwell, and Mrs. M. B. Rubin, all of Dallas, and Miss Mildred Reddick of Houston.

DR. A. L. W. TACKABERRY

Dr. Arthur Lee Wilson Tackaberry, former Houston physician, died November 28, 1959, in Santa Monica, Calif., as a result of congestive cardiac failure due to emphysema following immobilization by hip fracture. Dr. Tackaberry had moved to California shortly after his retirement about 18 months ago.

A native of Moscow in Polk County, Dr. Tackaberry was born March 20, 1874, the son of Samuel Bailey and Mary Ellen Tackaberry. After attending schools in Moscow and Salado, he was graduated from the Medical Department, Tulane University, at New Orleans. He served an internship at Charity Hospital in New Orleans. Shortly after his internship he was quarantine officer at Sabine Pass. During



DR. W. GRADY REDDICK

DR. A. L. W. TACKABERRY

World War I, he was physician and surgeon for the Great Northern Railway of Australia. Other places where he practiced for brief periods included Port Arthur, Liberty, Shepherd, Jasper, New Waverly, and Humble. In Houston he was medical officer for the Ford Motor Company. Later he was associated with the Houston Clinic and the Wright Clinic.

A member of the Texas Medical Association since 1922, Dr. Tackaberry was elected to honorary membership in the organization in 1953. At the time of his death he was a member of the Harris County Medical Society. Previously he had belonged to the Jefferson and Polk-San Jacinto societies.

Dr. Tackaberry and the former Miss Myrtle Amelia Stace were married in March, 1910, at Sydney, Australia. Mrs. Tackaberry survives as do a daughter, Mrs. Charles D. Robertson of Santa Monica; a son, Arthur John Tackaberry of Hollywood; and a sister, Mrs. Ollive Ollinger of Cincinnati.

DR. P. C. NICHOLS

Dr. Pike Calton Nichols, elected Spur's "Man of the Year" in 1954 by the Chamber of Commerce, died November 9, 1959, the result of a blocked kidney.

Dr. Nichols was born October 3, 1881, in Tennessee, the son of John and Francis Nichols. In 1907 he was graduated from Louisville Medical College in Kentucky. He returned to Temple, Texas, where he had attended junior college, to begin his practice. After serving several small towns in west Texas, Dr. Nichols located in Spur in 1924. He was owner of Nichols Sanitarium.

For many years a member of his county, district, state, and national medical organizations, Dr. Nichols had been elected to honorary membership in the Texas Medical Association in 1956. He also belonged to the American Surgical Association. He was a member of the First Baptist Church, Masonic Lodge, and Shrine. He had received a certificate of appreciation for his work with the Selective Service System for 4 years.

Dr. Nichols is survived by his wife, the former Miss Dellah A. Compere, whom he married September 13, 1911, in Sylvester, and their children, Pike C. Nichols, Jr., Spur; Major John L. Nichols, Fort Ord, Calif.; and Mrs. Martha Francis Nichols Campbell, Spur. A brother, R. V. Nichols of Houston, and a sister, Mrs. J. W. Aderholt of Weslaco, also survive.

DR. P. C. NICHOLS

DR. CLAUDE C. CODY, JR.

Dr. Claude Carr Cody, Jr., of Houston, president of the Texas Medical Association in 1946-1947, died December 30, 1959. He had retired from practice in 1955 following a cerebral vascular accident.

Well known in medical circles, both at the local and national level, the 75-year-old physician was a native of Georgetown. His father was professor of mathematics at Southwestern University at Georgetown from 1879 to 1915, serving as dean of the faculty from 1905 to 1915 and as dean emeritus thereafter until his death in 1923. His mother was Martha R. Hughes.

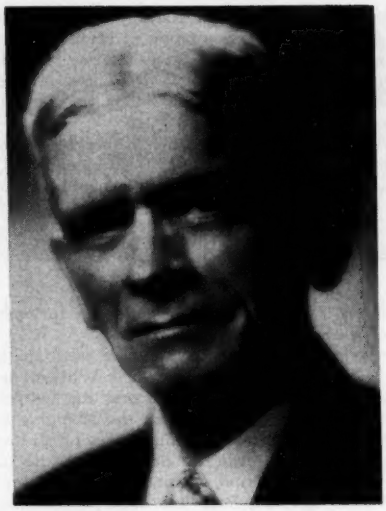
Dr. Cody completed his preliminary education in the Georgetown public schools, afterwards attending Southwestern University, from which he received a bachelor of arts degree in 1904 and a master of arts degree in 1905. In 1910 he was graduated in medicine from Johns Hopkins University at Baltimore, and after graduation served as an intern and as house surgeon for the First Surgical (Columbia University) Division, Bellevue Hospital at New York.

Dr. Cody practiced medicine at Houston from 1913 until 1917, when he was commissioned as a first lieutenant in the Army Medical Reserve Corps. Shortly after, he was called to active duty and saw overseas service in France. He held the rank of major when he was discharged in 1919. Returning to his Houston practice, Dr. Cody limited himself to the specialty of otolaryngology, attending the Graduate Medical School of the University of Pennsylvania for a year. He received further training in Vienna in 1931.

One of the founders of the Houston Eye, Ear, and Throat Hospital, Dr. Cody served on the staffs of the Southern Pacific Hospital, Baptist Hospital, Jefferson Davis Hospital, and Methodist Hospital, where he was consulting otolaryngologist. For a number of years he was professor and head of the Department of Otolaryngology at Baylor University College of Medicine, and for 21 years was a member of the board of trustees of Southwestern University at Georgetown. He had served as chairman of the latter and was an honorary member at the time of his death. The library at Southwestern is named for his father.

Dr. Cody served as president of the Harris County Medical Society in 1923 and for years was a trustee for the Houston Academy of Medicine. He did much to develop its library and was active in planning its present building. He had helped establish the Harris County Medical Library in 1919. He was a past president of the Texas Ophthalmological and Otolaryngological Society and the Houston Academy of Medicine and was a diplomate of the American Board of Otolaryngology. A fellow of the American Academy of Ophthalmology and Otolaryngology and the American College of Surgeons, he was particularly proud of his membership in the American Laryngological, Rhinological, and Otological Society, American Laryngological Association, and American Otological Society, as he was the first person in Texas to belong to all three. He was chairman of the Section on Laryngology, Otology, and Rhinology of the American Medical Association from 1942 to 1944.

Serving continuously from 1924 to 1932 as delegate to the Texas Medical Association, Dr. Cody had been a mem-



DR. CLAUDE C. CODY, JR.

DR. JAMES VANCE

ber of this organization since 1914. He served as a member of the Council on Medical Economics from 1936 until his election to the office of president-elect in 1944, being chairman of the council from 1938 to 1944. He served as president-elect for 2 years since World War II prevented the holding of an annual session in 1945. He was chairman of the committee which prepared extensive revisions in the By-laws for adoption in 1948. Dr. Cody also was chairman of the Eye, Ear, Nose, and Throat Section of the Association in 1938, and in 1950 was elected to emeritus membership in the organization.

Dr. Cody made numerous valuable contributions to medical literature in his specialty. These received publication in many of the national medical journals as well as in the *Texas State Journal of Medicine.* The physician was awarded honorary doctorate degrees from Southwestern University in science and from Baylor University in law.

He was elected a director of the Houston Chamber of Commerce in 1946 and for more than 30 years served as a steward of St. Paul's Methodist Church. He belonged to the River Oaks Country Club of Houston and was one of the organizers of the Doctors Club in Houston.

Members of the family who survive include his wife, the former Miss Florra Root, whom he married in 1917, and a brother, Derrell Cody of Gainesville, Fla. Dr. Claude C. Cody, III, and Dr. Melville Cody of Houston are nephews.

DR. JAMES VANCE

Dr. James Vance of El Paso, long-time member and former president of the El Paso County Medical Society, died December 2, 1959, of acute coronary occlusion and myocardial infarction.

Born October 2, 1875, in Shelbyville, Ky., Dr. Vance was the son of Robert G. and Frances (Stowe) Vance. He attended Washington and Lee University at Lexington, Va., and was graduated from the Hospital College of Medicine at Louisville in 1899. He took a postgraduate course at Harvard Medical School and the Boston City Hospital Laboratory before serving an internship at Bellevue Hospital in New York. Between 1901 and 1905 he was instructor in bacteriology and pathology and assistant to the chair of abdominal surgery at the University of Louisville. During one year, however, he was granted a leave of absence to study at the University of Vienna in Austria. Since 1905, Dr. Vance had resided in El Paso, where he was active in the practice of surgery. He was away from El Paso during World War I as a captain in the Army Medical Corps.

Throughout his career in Texas, Dr. Vance was a member of the El Paso County Medical Society and the Texas Medical Association, being named an honorary member in the latter organization in 1954. He also belonged to the American Medical Association. In addition to holding the position of president of the El Paso County Medical Society, Dr. Vance had held similar posts in the Louisville Surgical Society and the Southwestern Medical Association. He was a fellow of the American College of Surgeons and in graduating from his medical school at the top of his class also had won the McMurtry abdominal surgery prize.

A six time champion of the Southwestern Golf Association and a hunter of note, Dr. Vance was an honorary member of the El Paso Country Club and the Coronado Golf and Country Club. He also was a thirty-second degree Scottish Rite Mason.

Miss Frances Clark and Dr. Vance were married in El Paso in 1912. Mrs. Vance survives together with a brother, Truman S. Vance of Staunton, Va., and two sisters, Mrs. William R. Snyder of Lexington, Ky., and Mrs. Alvan Harbison of New York.

DR. SAMUEL PERLMAN

Dr. Samuel Perlman, who had practiced general medicine and general surgery in Carthage since 1939, died December 22, 1959, as the result of an automobile accident.

A native of Odessa, Russia, born July 24, 1902, Dr. Perlman came with his parents to the United States in 1907. He grew up in Oregon and attended Pacific University in Forest Grove, Oregon. He continued his studies at Indiana University, and was graduated from its School of Medicine in Indianapolis in 1930. He served an externship at Indiana University Hospitals and an internship at Indianapolis City Hospital before returning to Oregon to practice in Portland. Dr. Perlman came to Texas in January,

1939, staying a few months in Longview and then moving to Carthage.

At the time of his death Dr. Perlman was a member of Panola County Medical Society, which he served as secretary in 1951 and president in 1958, Texas Medical Association, American Medical Association, American Academy of General Practice, and Southern Medical Association.

Surviving the Carthage physician is his wife, the former Phoebe Sue Holt of Henderson, Texas; a 3 year old son, Jonathan Samuel Perlman; his parents, Mr. and Mrs. J. R. Perlman of Carthage; and a brother, Heine Perlman, of Portland, Oregon.

DR. CLARENCE G. ALLEN

Dr. Clarence Genoa Allen, Commerce surgeon, died December 27, 1959, after an extended illness.

A native of Pangburn, Ark., Dr. Allen was born January 21, 1891, the son of James G. and Esther (Morris) Allen. He attended Commerce High School and East Texas State Teachers College, also at Commerce, and received his medical training at the Baylor University Medical Department at Dallas. After an internship at Charity Hospital in Dallas, he went to Campbell, where he practiced until 1921, at which time he moved to Commerce, where he remained until his death. He did postgraduate work at the Mayo Clinic in Rochester, Minn., at Tulane University Medical School in New Orleans, the Ochsner Foundation Hospital in New Orleans, the University of Michigan Medical School at Ann Arbor, and Barnes Hospital in St. Louis. During World War II Dr. Allen served as examining physician for the Commerce area. He received a citation from the President of the United States for his wartime services. The physician had been head of East Texas State student hospital since its opening and was division physician and surgeon for the Cotton Belt Railroad for 45 years. He was also division physician and surgeon for Southern Pacific Railroad. In recent years, Dr. Allen became interested in farming and cattle raising and accumulated extensive holdings.

A member of the Texas Medical Association through the Hunt-Rockwall-Rains Counties Medical Society, Dr. Allen also held membership in the American Medical Association and the American Railway Physicians and Surgeons Association. He was a fellow of the American College of Surgeons. He belonged to the Commerce First Methodist Church, and was a thirty-second degree Scottish Rite Mason and member of the Shrine. His hobby was operating railroad locomotives.

Survivors include his wife, the former Miss Coye Bass; one son, Clarence Allen, Dallas; a daughter, Mrs. Charles Miller of Atlanta, Ga.; and three grandchildren.

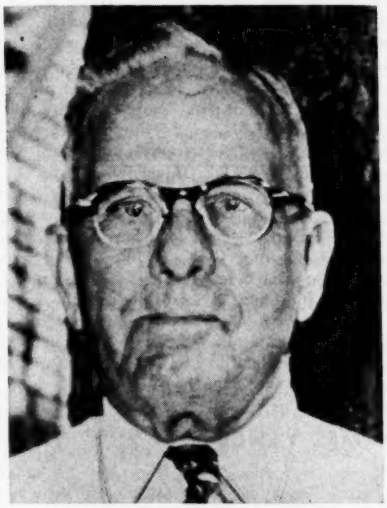
DR. CLARENCE G. ALLEN

DR. PERRY A. BAZE

Dr. Perry Allen Baze, Mason physician for more than 50 years, died December 6, 1959.

A native of Camp San Saba, Dr. Baze was born July 17, 1877, the son of Jefferson and Elizabeth Whistenhu..t Baze. He attended schools in San Saba and the University of Tennessee and was graduated from the Memphis Hospital Medical College at Memphis, Tenn. Following an internship and residency at the medical college hospital, he started a general practice at Mason, continuing it until his retirement 2 years ago. Dr. Baze had done postgraduate work at the New York Poly Clinic. The physician was a past chief of staff of the Mason Memorial Hospital, for which he helped raise support after the first hospital in Mason, which he established, burned. He was a veteran of World War I and served in the Army Medical Corps at Camp Travis.

A member of the Texas Medical Association since 1904, Dr. Baze was elected to honorary membership in the organization in 1957. He belonged to the Kimble-Mason-Menard-McCulloch Counties Medical Society, the Masons,



DR. PERRY A. BAZE

the Chamber of Commerce, the Christian Church, and th Lions Club. Six years ago Mason held a pageant in Dr. Baze's honor, celebrating 50 years of service to the county.

Survivors include his wife, the former Miss Bessie Donop whom he married in Mason, Texas, on November 7, 191 a daughter, Mrs. Douglas Walsh of Dallas; a son, Jefferso P. Baze of Port Arthur; a sister, Mrs. H. P. C. Evers o Brady; and two brothers, Garret Baze of Oklahoma Cit and Dr. Walter Baze of Chickasha, Okla.